500-ME-12306

Operation and Maintenance Instructions

End-to-End Pedestal

MP MASTER
MA29827

Scientific Atlanta

National Brand

67-002

Dennison Stationery Products Co.
Framingham, MA 01701

Virgin Vinyl
Made in U.S.A.

500-ME-12306

Scientific
Atlanta

End-to-End Pedestal

Operation and Maintenance Instructions

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WARNING

HAZARDOUS VOLTAGE

Voltages present in this equipment and associated cables are lethal. Extreme caution must be exercised during these procedures. DEATH OR SEVERE INJURY may result if personnel fail to observe safety precautions.

WARNING

HAZARDOUS CHEMICALS are used in cleaning and maintenance procedures. EXPLOSIONS, OR DAMAGE TO EYES, LUNGS, SKIN, NOSE, AND THROAT may result if personnel fail to observe safety precautions.

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SAFETY SUMMARY

The following are general safety precautions that are not related to any specific procedures and therefore do not appear elsewhere in this publication. These are recommended precautions that personnel must understand and apply during many phases of operation and maintenance.

KEEP AWAY FROM LIVE CIRCUITS

Operating personnel must at all times observe all safety regulations. Do not replace components or make adjustments inside the equipment with the high voltage supply turned on. Under certain conditions, such as charges retained by capacitors, dangerous potentials may exist when the power control is in the off position. To avoid casualties, always remove power and discharge and ground a circuit before touching it.

RESUSCITATION

Personnel working with or near high voltages should be familiar with modern methods of resuscitation.

DO NOT SERVICE OR ADJUST ALONE

Under no circumstances should any person service or adjust the equipment except in the presence of someone who is capable of rendering aid.

WEAR PROTECTIVE CLOTHING

Wear protective clothing (gloves, apron, etc.) approved for the materials and tools being used.

USE SAFETY APPROVED EQUIPMENT

When cleaners are being applied, approved explosion-proof lights, blowers, and other equipment shall be used. Ensure that fire fighting equipment is readily available and in working order.

GIVE CLEANERS SPECIAL CARE

Keep cleaners in approved safety containers and in mimimum quantities. Discard soiled cleaning cloths into safety cans.

Section I

GENERAL INFORMATION

1-1 INTRODUCTION.

This manual provides operation and maintenance instructions for the End-to-End Test RF Equipment Pedestal.

1-2 CONTENTS OF THIS MANUAL.

This manual consists of the following sections:

Section I	GENERAL INFORMATION
Section II	PREPARATION FOR USE, RESHIPMENT, AND STORAGE
Section III	OPERATION INSTRUCTIONS
Section IV	PRINCIPLES OF OPERATION
Section V	MAINTENANCE INSTRUCTIONS
Section VI	PARTS LIST
Section VII	DRAWINGS

1-3 USE OF THIS MANUAL.

A table of contents indicates sections, paragraphs, titles and page numbers to locate information. Illustrations, tables, and diagrams supplement the text material. Lists of illustrations and tables indicate the numbers, titles and page numbers. Abbreviations, phrases, and words appear in the text exactly as they appear on the equipment.

1-4 FORMAT OF THIS MANUAL.

Paragraph headings of this manual are formatted to indicate subordination of subject matter as follows:

1-1 PRIMARY HEADINGS.

1-1.1 First Subordinate.

1-1.1.1 Second Subordinate.

1-1.1.1.1 Third Subordinate.

1-1.1.1.1.1 Fourth Subordinate.

1-5 CHANGE RECOMMENDATIONS.

Any manual can be improved. The major source of feedback is the user. Submit recommendations concerning changes to Scientific-Atlanta.

1-6 DESCRIPTION.

The End-to-End Pedestal is a modified Model 8028M Motorized Mount Assembly. It is an elevation-over-azimuth torque tube mount designed to support a 7-meter antenna reflector. A reflector mounting plate is used to adapt the pedestal to the end-to-end 4.5-meter antenna reflector. The pedestal consists of a torque tube mount, motorized azimuth drive, and a motorized elevation drive. See Figures 1-1, 1-2, and 1-3.

1-6.1 Model 8028M Mount. The Model 8028M Mount may be motor-driven through any one of the three available 110-degree continuous sectors in azimuth and may be motor-driven from zero to 85 degrees in elevation. A method is provided for occasional operation of both elevation and azimuth actuators manually or with auxiliary power source such as a drill motor.

NOTE

The terms pedestal and mount are used interchangeably in this manual.

1-7 SPECIFICATIONS.

Table 1-1 contains the Model 8028M Pedestal specifications.

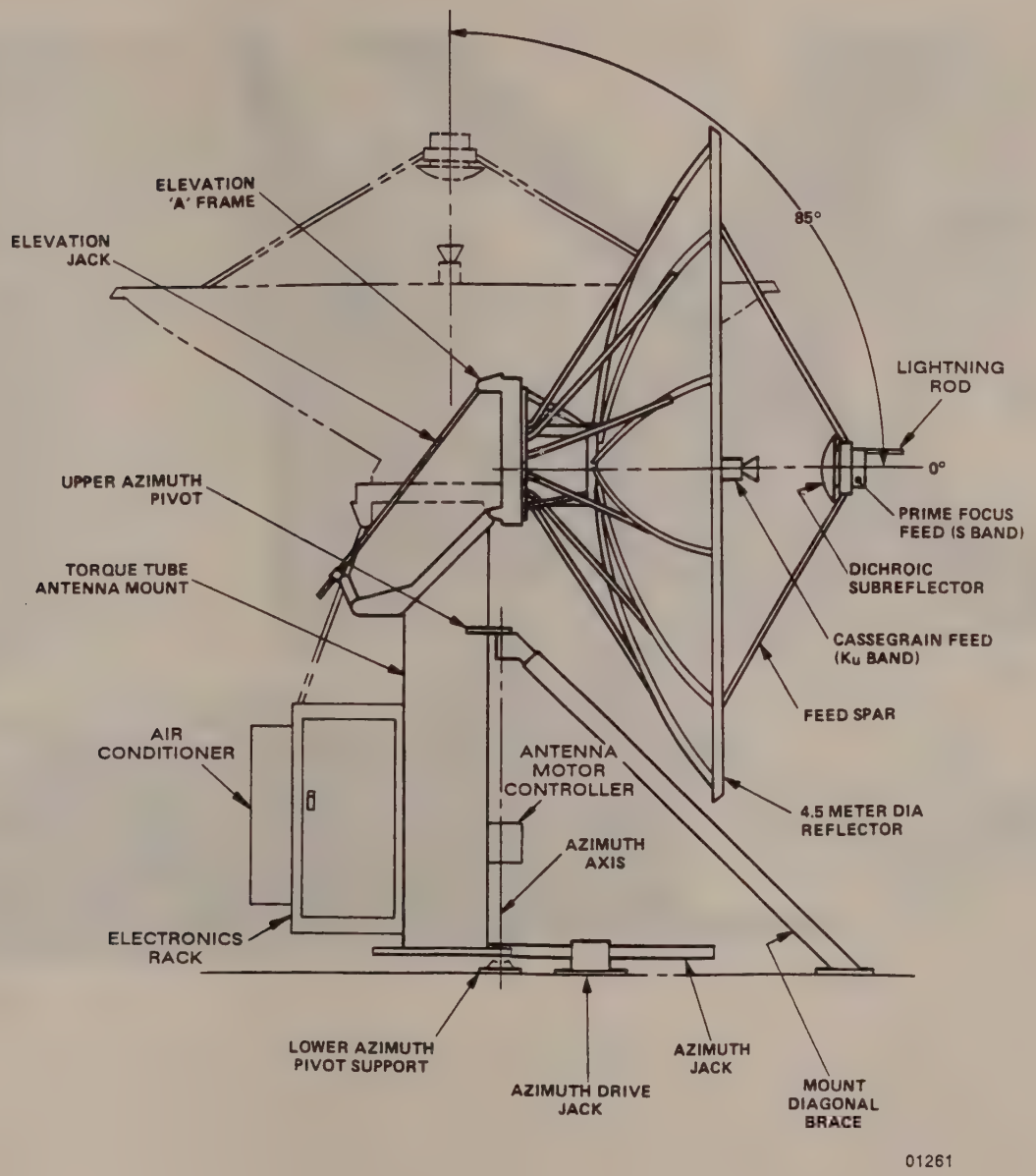

Figure 1-1. Modified Pedestal with Antenna Installed

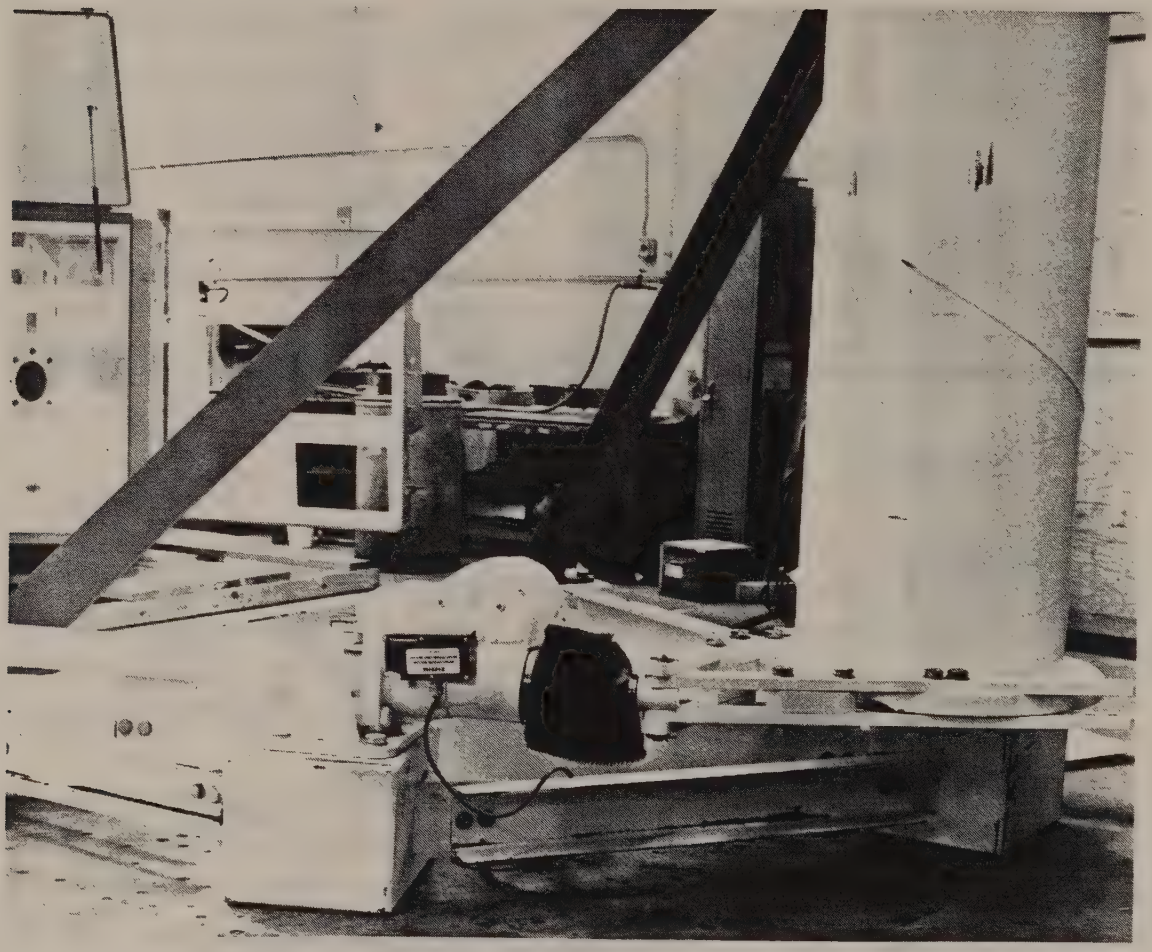

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Figure 1-2. Azimuth Motorized Actuator

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Figure 1-3. Elevation Motorized Actuator

Table 1-1. Model 8028M Mount Specifications

Characteristic	Specification
Mount	Elevation-over-azimuth
Coverage	
Azimuth	180° in three overlapping 110° sectors
Elevation	0° to 85°
Antenna Rotation Rate in High-Speed and Low-Speed Modes (average speed for total arc of travel)	
Azimuth	1.87°/sec; 0.18°/sec
Elevation	0.94°/sec; 0.09°/sec
	Environmental, Nonoperating
Temperature	-20° F to +160° F
Relative Humidity	0 to 100 percent
Altitude	Sea level to 35,000 feet
Solar Radiation	350 BTU/sq ft/hr
Wind Survival	
Any Position	Up to 130 km/hr (80 mph)
Stow Position	Up to 193 km/hr (120 mph)

Table 1-1. Model 8028M Mount Specifications - Continued

Characteristic	Specification
	Environmental, Operating Without Shelter
Ambient Temperature	+10° F to + 130° F
Relative Humidity	2 to 100% with precipitation
Precipitation	Rain 4 inches/hour; thunderstorms, snow and ice Occasional hail up to 1 inch in diameter
Solar Radiation	300 BTU/sq ft/hr
Sand and Dust	Blown sand and dust, southwestern desert region category
Wind Survival	
Any Position	Up to 130 km/hr (80 mph)
Stow Position	Up to 193 km/hr (120 mph)

1-8 RELATED PUBLICATIONS.

The following related publications, of the issue and date in effect at the time of publication of this manual, are applicable. Equipment descriptions, maintenance, operation, and parts listings are contained in the individual equipment publications.

Publication Number	Publication Title
55S383Z	End-to-End Test RF System, Operation and Maintenance Manual
55A200Z	End-to-End Antenna and RF Equipment Subsystem, Operation and Maintenance Manual

1-9 GLOSSARY OF SYMBOLS AND ABBREVIATIONS.

The following is listing that defines all nonstandard symbols and abbreviations used in this manual.

Symbol or Abbreviation	Definition
AISC	American Institute of Steel Construction
ASTM	American Society for Testing and Materials
SAE	Society of Automotive Engineers
REQD	Required

Section II

PREPARATION FOR USE, RESHIPMENT, AND STORAGE

2-1 INTRODUCTION.

This section provides instructions for installing the equipment and for reshipment and storage as required.

2-2 UNPACKING AND INSPECTION.

While unpacking, carefully compare bill of lading with equipment received. Check for damage that may have occurred during transit. Should errors be noted, notify the contractor and the carrier as soon as possible, but only after thoroughly examining all the packing material carefully.

2-2.1 Damage or Loss During Shipment. When equipment is damaged or lost in transit, the delivering transportation company is required by law to make notation of damage or loss on the freight bill. The carrier and not the shipper should be charged with all damaged or loss. In the event of damage or loss during shipping, contact the responsible carrier of the equipment. Save the shipping carton. The inspector must examine the carton prior to completion of the inspection report.

2.2.2 Equipment Return. The contractor makes a genuine effort to ensure that all items arrive safely and in working order. Occasionally, despite these efforts, equipment will be received which is not in working condition. When this occurs and it is necessary to return the equipment to the manufacturer for either repair or replacement, or when operational equipment requires repair, the return can be expedited if the following procedure is followed:

a. Tag or identify the defective equipment. Note the defect and circumstances.

b. Reference the sales order, purchase order, and the date the equipment was received.

c. Notify the contractor's customer service department of the defect and request shipping instructions.

2-3 INSTALLATION.

Installation of the pedestal consists of two phases: foundation construction and pedestal assembly. Electrical cabling is installed in conjunction with the antenna installation.

2-3.1 Foundation Construction Guideline. The foundation is an essential part of the antenna installation. It is oriented so that the desired pointing angles can be achieved and accurately maintained under maximum wind loads. The foundation construction is a customer responsibility, unless other arrangements are made.

NOTE

It is imperative that a professional engineering service be engaged to assure that the foundation is properly designed for local site conditions and building codes and to supervise foundation construction. Scientific-Atlanta does not imply or warrant that the foundation design shown in this manual is appropriate for any particular locality or site condition.

2-3.1.1 Wind Load. The antenna mount is designed to safely support the antenna in winds up to 125 mi/h. The pointing accuracy of the installed antenna is determined by stiffness of the mount, the antenna , and the foundation. It is recommended that the foundation be designed for a maximum tilt of 0.15 degrees when the 125 mi/h wind loads are applied to the antenna.

2-3.1.2 Template Kit. A Model 8083-7 Anchor Bolt/Template Kit, which includes sixteen foundation anchor bolts and an anchor bolt location template, is available. The template accurately locates the three main anchor plates for the mount and a fourth anchor plate for the azimuth jack screw base (refer to drawing 263383).

2-3.1.3 Orientation. The direction of antenna pointing will be specified by the customer. A true north-south reference line for the purpose of foundation orientation may be established by reference to: a magnetic compass heading (corrected for declination or variation), a survey from registered benchmarks, or a sighting of Polaris (North Star). This line is used to position the foundation pad and to establish the heading of the foundation anchor bolt pattern. The survey should be done by a qualified surveyor.

2-3.2 Pedestal Assembly. The assembly and erection procedures presented in this section are based on the assumption that a powered lifting device of adequate size and capacity is used; therefore, the procedures given do not reflect consideration of limitations in lifting and handling equipment that might be encountered at any specific installation site. If a suitable crane is not available, it is possible to assemble and erect the entire pedestal without heavy hoisting equipment, provided sufficient manpower is available.

Use proper tools for all erection procedures. Table 2-1 lists the tools required to assemble the pedestal (as well as assembly of the antenna structure, which follows).

The pedestal is partially assembled as shipped. Completion of the pedestal assembly requires only the elevation actuator assembly be installed after erection of the pedestal.

Table 2-1. Tools Required for Assembly

Quantity	Description
1 set	Socket, 3/8-inch drive, including 3-inch extension
1 set	Wrench, Combination, up to 1-1/2 inch size
1	Socket, 1-1/2 inch diameter, 4 inches long: used for turning anchor bolt nuts
3	Straps, nylon, 12 feet long, minimum capacity 2000 pounds each; complete with lifting ring and attachment hooks
1	Hoist, lever-operated cable or chain; 2-ton minimum capacity
2	Pin, drift, large size, for aligning 1-inch holes
1	Stepladder, 10 foot
1	Ladder, extension, 25 foot
1	Wrench, torque, 600 lb-ft capacity
1	Wrench, torque, 6 to 75 lb-ft capacity
1	Mallet, rawhide
1	Rope, 50 foot, 3/8-inch manila or nylon; used for tie line
3	Cable, stainless steel, 3/8-inch diameter, 20 feet long
12	Clamp, cable 3/8 inch diameter, standard steel
1	Level (spirit or bubble)
6	Clamp, 8-inch, C type
1	Hammer, ball peen, 24-ounce
1	Screwdriver, #2 cross slot
1	Screwdriver, medium, straight slot
1	Gauge, thickness ranges from 0.010 to 030 inch

2-3.2.1 Fastener Information. Fasteners of four different sizes are used in the primary structure. These fasteners include the following sizes: 3/8-16, 1/2-13, 3/4-10 and 1-8. All of these are ASTM A325, high-strength, hexagonal-head cap screws (equivalent to SAE Grade 5). The anchor bolts used in the foundation are made of SAE Grade 5 steel or better.

NOTE

Prior to installation, dip or spray all 3/4-inch and 1-inch fasteners with zinc chromate primer. Install the fastener while the primer is wet.

Each fastener must be correctly tightened at final assembly to ensure that it will carry its design load without working loose under vibration and will not allow slippage or separation of joined members. The structural integrity and pointing accuracy of the total antenna system depend on proper installation of quality fasteners.

The instructions in this manual specify the required torque value for installation of all major structural fasteners as part of the assembly procedure, because the torque value required for a given fastener size may vary with the application. Where torque requirements are not given in the instructions, as with fasteners not in the primary structure, refer to Table 2-2 for recommended torque values.

When a calibrated torque wrench is not available, or if an alternate method of establishing wrenching torques is desired, the turn-of-nut method as recommended by the AISC Steel Construction Manual may be used to achieve equivalent results. When this method is used, the fastener must first be brought to a "snug-tight" condition to ensure that the parts of the joint are in solid contact. After all fasteners in a connection have been tightened to the "snug-tight" condition, each fastener shall then be additionally tightened to a degree indicated by the nut rotation, or, if the wrench is applied to head end of the fastener, by bolt rotation relative to the nut.

Table 2-3 gives the required rotation value based on the length of the fastener.

NOTE

The required torque value for the foundation anchor bolts may not be accurately achieved by the turn-of-nut method. For these bolts, an accurate torque value of 400 to 450 lb-ft is required.

Table 2-2. Torque Value Required for SAE Grade 5 Fasteners

Fastener Size (inches)	Torque (lb-ft; tolerance +10%)
1/4 - 20	6
5/16 - 18	15
3/8 - 16	30
1/2 - 13	75
3/4 - 10	250 except as noted
1 - 8	600 except as noted

Table 2-3. Nut Rotation from a Snug-tight Condition to Full Assembly Torque

Bolt Length	Nut Rotation
Up to and including 4 diameters	1/3 turn, ± 30 degrees
Over 4 diameters but not exceeding 8 diameters	1/2 turn, ± 30 degrees

2-3.2.2 Pedestal Erection. The antenna foundation must be structurally adequate and provide the sixteen suitable anchor bolts located and installed per the foundation plan drawing 263030, or installed with the Model 8083-7 Anchor Bolt/Template Assembly. Foundation loads are shown in drawing 263030. The erection procedure consists of the following steps, in order. Refer to Figure 2-1 through 2-4, and Section VII Drawings.

a. Install 3/4-inch leveling screws in the foundation mounting plate on the left-hand and right-hand diagonal braces (see drawing 260873, items 10 and 11), the lower azimuth bearing base (260503), and the azimuth jack screw base (260873, item 1). Tapped holes are provided. One screw is used in the foundation mounting plate of each diagonal brace, three screws in the azimuth bearing base (drawing 263034) and two screws in the azimuth jack screw base. Turn each screw until the maximum number of threads protrude below the bottom surface of each base plate. This will help in leveling the mount since it is easier to lower the mount than it is to raise it.

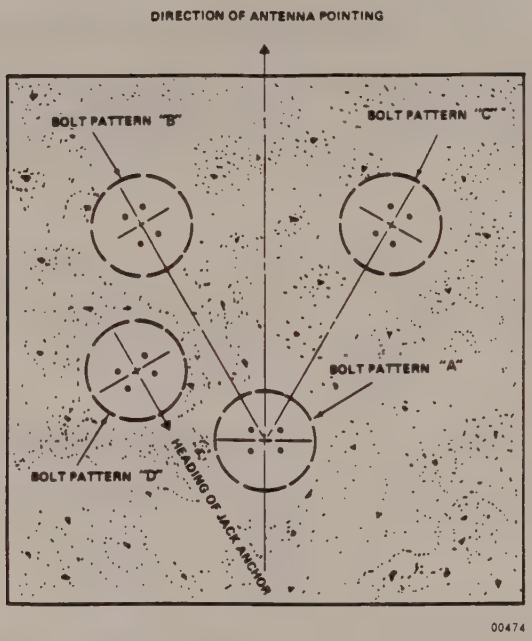

Figure 2-1. Anchor Bolt Pattern on Foundation Plan

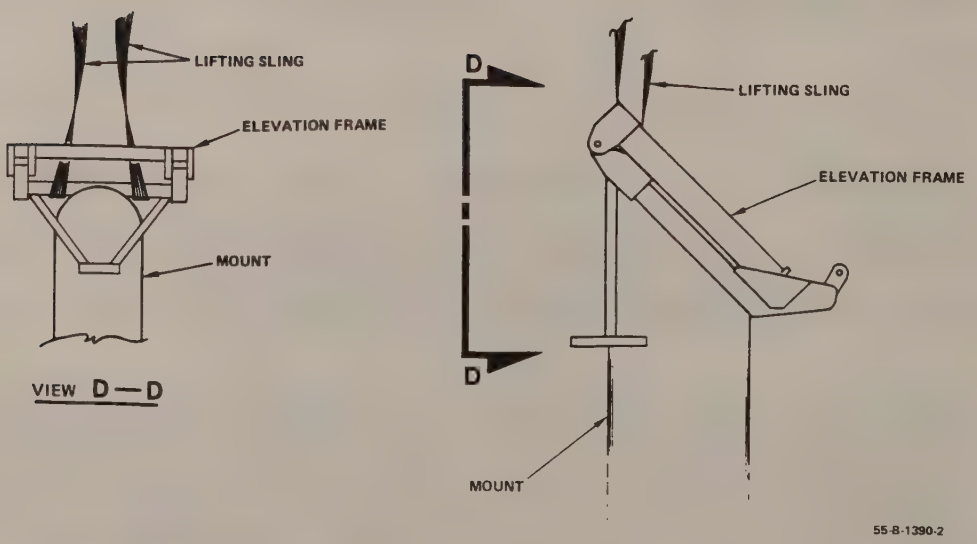

Figure 2-2. Lift Sling Attachment

b. Lift and support the left-hand diagonal brace (item 10) at a 45-degree angle as shown in drawing 260873, center the four holes in the base plate over the four anchor bolts (see bolt pattern "B", Figure 2-1). Lower the brace onto the anchor bolts until the leveling screw rests on the concrete surface. Install a washer and a nut on each anchor bolt. Install the nuts loosely so that the brace remains erect but is free to move at the upper end. Repeat this procedure for the right-hand brace (item 11) on bolt pattern "C". Note that the left-hand and right-hand braces are installed with the channel flanges facing inward.

c. Attach a suitable lifting sling to the mount assembly as shown in Figure 2-2. Lift the mount assembly (weight 1,500 pounds) clear of the ground so that it is suspended in a nearly vertical attitude. Position the suspended mount so that the four holes in the lower azimuth bearing base drawing 260491 are directly over the anchor bolts of bolt pattern "A" in Figure 2-1. The front of the mount must face in line with the foundation heading. Slowly lower the mount, align bolts and holes until the mount rests on the three leveling screws. While maintaining the vertical attitude of the mount with the crane and lifting sling, install a washer and a nut loosely on each of the four anchor bolts.

d. Mate the upper end of each diagonal brace (drawing 260873, items 10 and 11) with the appropriate wing of the diagonal brace fitting (drawing 260496). Align the six holes in each brace with the tapped holes in the fitting. Loosely install six 3/4-inch bolts on each side.

e. Using the leveling screw, adjust the base plate on the left-hand diagonal brace to a distance of 1 inch between the bottom of the base plate and the concrete surface. By the same method, adjust the base plate - on the right-hand brace to the same height as the left-hand plate within ± 1/8 inch. Turn all eight anchor nuts down snugly against the base plate surface. Do not tighten.

f. Using the three leveling screws alternately, adjust the bearing base (drawing 260491) to the same height (± 1/8 inch) as the left-hand brace base plate. Ensure that the base is approximately level(no more than 1/8 inch difference in height between opposite edges of the base plate.) Turn the four nuts down snugly against the base plate. Do not tighten. Lower the crane and remove the lifting sling; the mount is now stable.

g. Install the azimuth actuator (drawing 260873, item 9) by the following procedure.

(1) Refer to drawing 55B1396-2. Determine the azimuth operating sector required for the antenna installation and assemble the azimuth drive arm structure to the mount flange per drawing 260873. Use the hole positions appropriate for the required operating sector as indicated by one of the three sketches in drawing 55B1396-2. Do not tighten the four bolts (item 207) that attach the arm assemblies to the mount flange.

(2) Assemble the azimuth actuator to the actuator base (item 8) by installing a thrust bearing (item 100), two pins (item 6) and two pin retainers (item 5) as shown in view C-C of drawing 260873. Note that the lower pin may be installed through an access hole in the base plate. Secure each retainer with a 1/4-20 x 1/2-inch cap screw.

(3) Position the assembled actuator and actuator base so that the base plate holes mate with bolt pattern "D" of Figure 2-1. Ensure that the actuator is headed in the proper direction by reference to drawing 260873. Loosely install a washer and nut on each of the four anchor bolts protruding through the base plate.

(4) Connect the actuator to the mount by inserting the actuator screw end fitting between the upper and lower pairs as shown in view B-B of drawing 260873, and installing the pivot pin (item 16) with a washer and cotter pin at each end as shown in view B-B.

CAUTION

Operation of the actuators while the limit switch assembly is removed will necessitate resetting the switches before starting normal operation.

NOTE

The azimuth and elevation actuators can be manually operated when power is not available. Make sure the limit switches (drawing 260873, item 101) are removed to prevent internal damage. Release the motor brake by turning two external brake release arms 90 degrees (refer to Figure 2-3). Operate actuators by turning the motor shaft that extends through the brake housing with a 3/4-inch wrench or with a drill motor of 1/2-inch or larger capacity. Always apply the motor brake after operation.

(5) Retract the actuator screw until the distance between the screw end fitting pin (drawing 260873, item 16) and the actuator base pivot pins (item 6) is 40 inches or less. Place a spirit level along the top of the screw cover tube.

Use the two leveling screws to adjust the base plate height until the actuator is level. Ensure that the base plate is approximately level (i.e., no more than 1/8-inch difference in height between opposite edges).

h. Tighten the twelve bolts which join the two diagonal braces to the fitting (drawing 260873, item 202) to 300 to 350 lb-ft torque.

i. Grout is used between the concrete foundation surface and the four base plates to ensure a rigid, load-bearing connection. The grouting procedure uses EMBECO * 636 grout. It is important that the grout manufacturer's instructions be followed. These instructions are packaged with the grout supplied. For convenience, the essentials of the procedure are repeated as follows:

NOTE

Grout must be 1.0-inch thick minimum at all locations. Refer to Figure 2-4. Verify that each anchor bolt nut will have no less than two threads above the nut. The normal ambient temperature range for good "early-strength" grouting is 55 °F to 80 °F. When temperatures at the job site are outside this range, the procedure given here must be modified to compensate for the high or low temperature. Refer to paragraph 2-3.2.3 for grouting at abnormal temperatures.

(1) Wash the work surface with water. Keep the surface saturated with water for at least 24 hours prior to grouting.

NOTE

Pouring must be completed within 10 minutes after mixing.

(2) Pour grout into a five-gallon bucket or equivalent mixing container and slowly add water. Stir the mix and add grout or water as required to obtain a good paste. Be sure to mix enough grout to complete each pad at one time. Once it begins to set, new grout will not bond to the old grout.

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*EMBECO® is a registered trademark of Master Builder's Co., Cleveland, Ohio 44122.

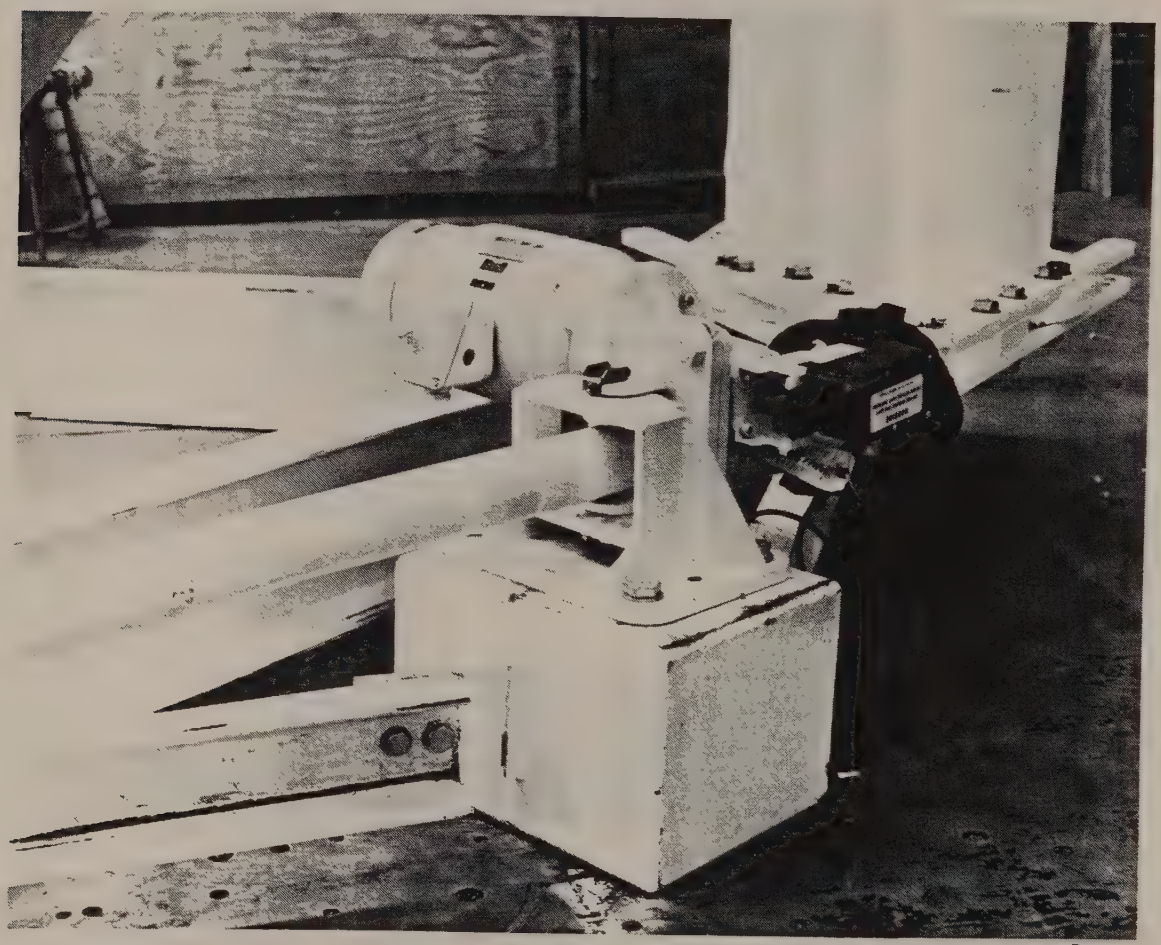

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Figure 2-3. Azimuth Actuator Components

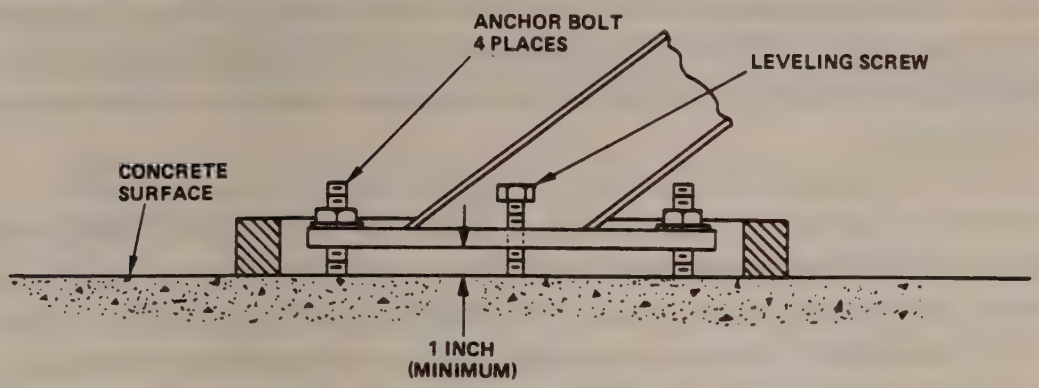

Figure 2-4. Location of Grouting

(3) Starting on one side of each base plate, use a small strip of wood to work the grout between base plate and foundation. It is important that the grout be worked from one side to the other to prevent air from being trapped under each plate. Once the area under the plate is full of grout, smooth the edges around each base plate for best appearance.

(4) Immediately after the grout is poured, cover all exposed grout with clean wet rags (do not use burlap). Keep the rags moist for at least two hours.

(5) After the grout has cured for a minimum of six hours, turn the leveling screws counterclockwise two to three turns to raise the screw off the bearing surface. Tighten the nuts on all 16 anchor bolts to 360 to 440 lb-ft torque.

2-3.2.3 Recommendation for Grouting at Abnormal Temperatures. Temperatures above 80° F are considered hot weather for grouting. Below 55° F, the temperatures are considered cold weather for grouting.

2-3.2.3.1 Hot Weather Grouting. High temperatures accelerate hardening of the grout, reducing the time that the grout remains workable after mixing. It is necessary that either (1) procedures be used which permit placing the grout more quickly, or (2) the available working time be increased by cooling the mixture and the mount base plates.

If approach (1) is taken, it is suggested that grout be mixed for each base plate separately and poured immediately. Mixing time could be reduced to one minute by use of an electric drill and mixing blade made of steel rod. As an alternative, grout working time may be increased by use of cold materials and cool foundation and base plates (option 2). This approach involves the use of cold or iced water in the mix to keep the as-mixed temperature of the grout under 70° F, preferably between 50° F and 55° F. In either case, the following practices are recommended:

a. Store bags of grout in as cool a place as practicable, but at least in the shade. Avoid exposing the bags to dampness or rain.

b. Give extra attention to saturating the concrete foundation for 24 hours before grouting. Heating and wind cause rapid evaporation; therefore, the concrete should be wet liberally and frequently to prevent drying. Consider the use of windbreaks and sunshades to maintain saturation.

c. Cool the base plates while saturating the foundation by covering the plates with wet cloths and allowing evaporation to cool them.

2-3.2.3.2 Cold Weather Grouting. Low temperatures slow the hardening process and keep the grout in a flowable state long enough to permit settlement and bleeding. Although grouting may be successfully accomplished at ambient temperatures as low as 45 ° F, the rate of strength gain (hardening) is slow and must be allowed before finally torquing the anchor bolts nuts, it is recommended that the grout, mixing water, and mount base plates be warmed to accelerate the curing process. The following procedure is suggested:

a. Store grout in a sheltered place so the the material will be at lest above freezing, but preferably above 45 ° F.

b. Measure the temperature of the base plate and foundation by placing a thermometer on the surface and covering it with a piece of dry insulation or dry rags. If the temperature is above 55° F, minimum, proceed with grouting following the normal procedures. If the temperature is below 55° F, warm the base plate and foundation to bring the temperature above the minimum, using the methods of paragraph 2-3.2.3.1, step c.

2-3.2.4 Final Assembly of Pedestal. The elevation actuator must be installed to complete the pedestal. Refer to drawing 260873 (item 7), and follow these steps:

a. Refer to view C-C, which shows the assembly of the azimuth actuator to the base; the procedure for the elevation actuator is essentially the same. Position the actuator assembly so that the protruding lugs on the mount structure fit into the slots in the actuator mount. Install one pin (item 6) and one pin retainer (item 5) on each side on the assembly. Secure each retainer with a 1/4-20 x 1/2-inch screw.

b. Position the clevis of the elevation frame (drawing 263034, item 2) end of the actuator as shown in drawing 260873, view E-E. Install the pin (item 4) and two thrust bearings (item 100). Secure the pin with a washer and cotter pin at each end.

c. Drive the actuator to position the elevation frame at approximately the 90-degree position in preparation for erection of the reflector in a subsequent step.

d. Ground the pedestal, as noted in drawing 263383.

Limit switches will be set and the azimuth/elevation potentiometers installed during antenna installation. Antenna installation is described in a related manual.

2-3.2.4.1 Lubrication. Refer to section V of this manual. Inspect the designated parts for proper lubrication.

2-3.2.4.2 Corrosion Protection. After installation, the pedestal should be given a final paint touch-up and an application of corrosion inhibitor at several points.

All painting should be done using a good quality commercial-grade paint such as Rust-Oleum enamel, or equivalent, that is available in local hardware stores.

a. Apply white Rust-Oleum enamel to any surface of the mount and antenna that was paint-damaged during shipping or installation. Painting procedures are given in section V of this manual.

b. Spray paint the heads, nuts and exposed ends of all installed fasteners to seal the joints.

c. Apply white Rust-Oleum enamel to all hardware (especially item 6 of Figure 2-5).

d. Apply a spray-type rust inhibitor to prevent corrosion to the following moving points (Figure 2-5).

   (1) Actuator mount pivots (items 1 and 2)

   (2) Actuator attachment pivots (items 3 and 4)

   (3) Elevation frame pivots (item 5)

   (4) Azimuth bearing shafts (item 7).

2-4 PREPARATION FOR RESHIPMENT.

The following procedure provides instructions for reshipment of the unit:

a. Tag or identify defective equipment, and note defect and circumstances, if any.

b. Notify Scientific-Atlanta Customer Service Department of circumstances and requests shipping instructions. Reference sales order, purchase order, and date equipment was received.

c. Reship unit in original shipping container or use a strong shipping container to protect unit during shipment.

d. Package unit using shock-absorbing material around all sides of equipment.

2-5 STORAGE.

During storage, protect equipment from temperature extremes which cause condensation within the equipment.

ITEM	NOMENCLATURE
1	PIN, TRUNNION PIVOT, AZIMUTH
2	PIN, TRUNNION PIVOT, ELEVATION
3	PIN, ELEVATION PIVOT
4	PIN, AZIMUTH PIVOT
5	PIN, ELEVATION FRAME PIVOT
6	BOLT, TYPICAL
7	SHAFT AZIMUTH BEARING

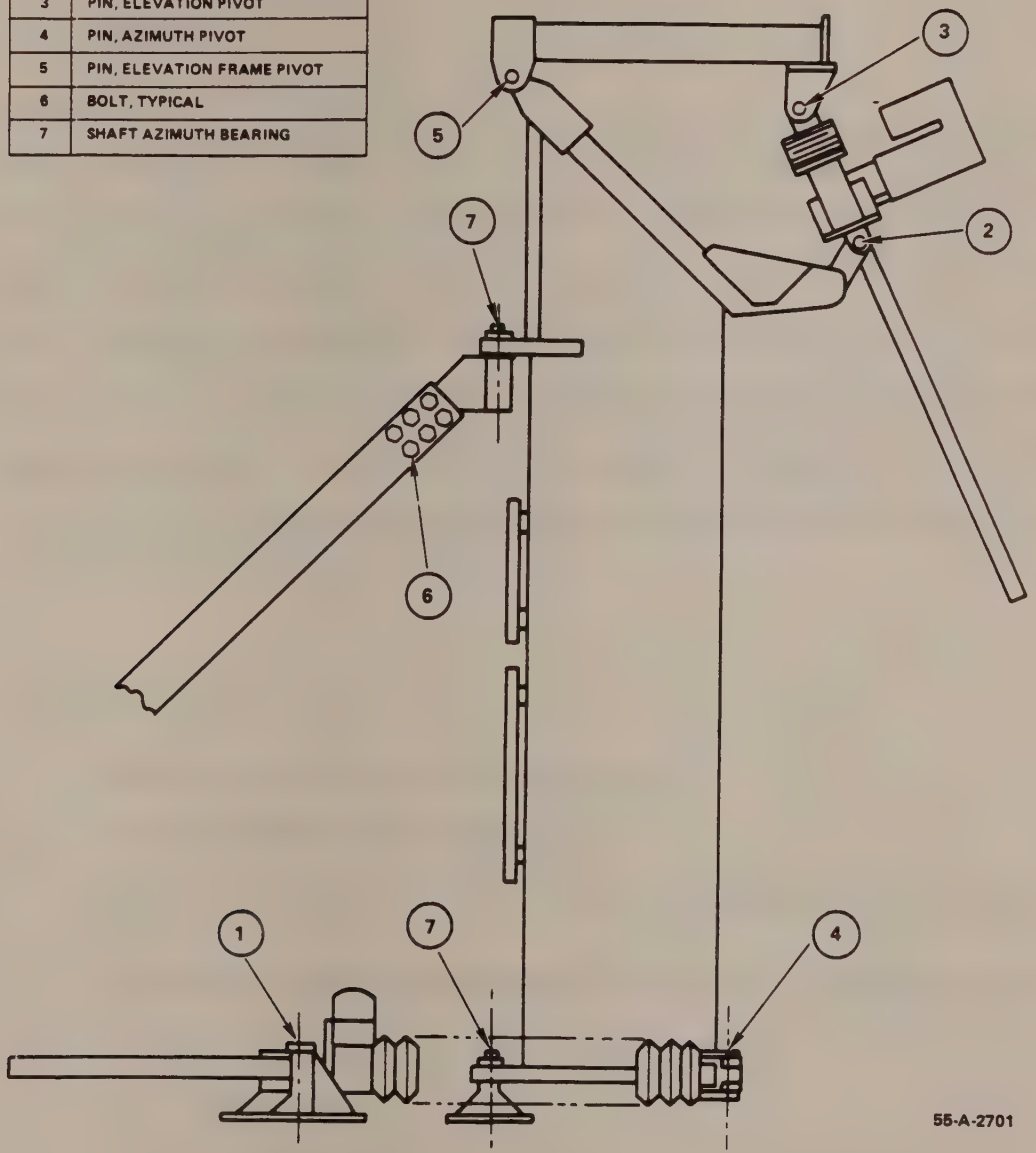

Figure 2-5. Corrosion Protection Areas

Section III

OPERATION INSTRUCTIONS

3-1 GENERAL.

The 8841B/A antenna motor controller provides phase-reversing ac induction motor control for Scientific-Atlanta motorized antenna systems. The 8841B/A is normally operated remotely from the 8840A Antenna position controller via a control cable. When local operation of the 8841B/A is required for test or maintenance, PEDESTAL OVERRIDE LOCAL may be selected at the front panel to isolate remote control inputs from the 8840A and transfer pedestal control to the switches and indicators on the 8841B/A front panel. LOCAL selection is indicated by LED on both the 8841B/A and 8840A panels. Figure 3-1 is a block diagram of the 8841B/A antenna motor controller, and Figure 3-2 shows 8841B/A front panel controls and indicators. Table 3-1 lists the function of each 8841B/A front-panel control and indicator. For remote operation using control by the 8840A antenna position controller, refer to Publication 69S029, Model 8840A Antenna Position Controller and Model 8841B/A Antenna Motor Controller Service Manual. The following procedures apply to LOCAL operation only.

3-2 TURN-ON PROCEDURE.

a. Verify that 115/208V ac 3 ϕ power is applied to pedestal.

b. Open cover on 8841B/A antenna motor controller.

c. Connect handset to jack on 8841B/A panel. Establish communication with 8840A operator, if required.

d. Set PEDESTAL OVERRIDE switch on 8841B/A panel to LOCAL. Verify that LOCAL indicator is lit.

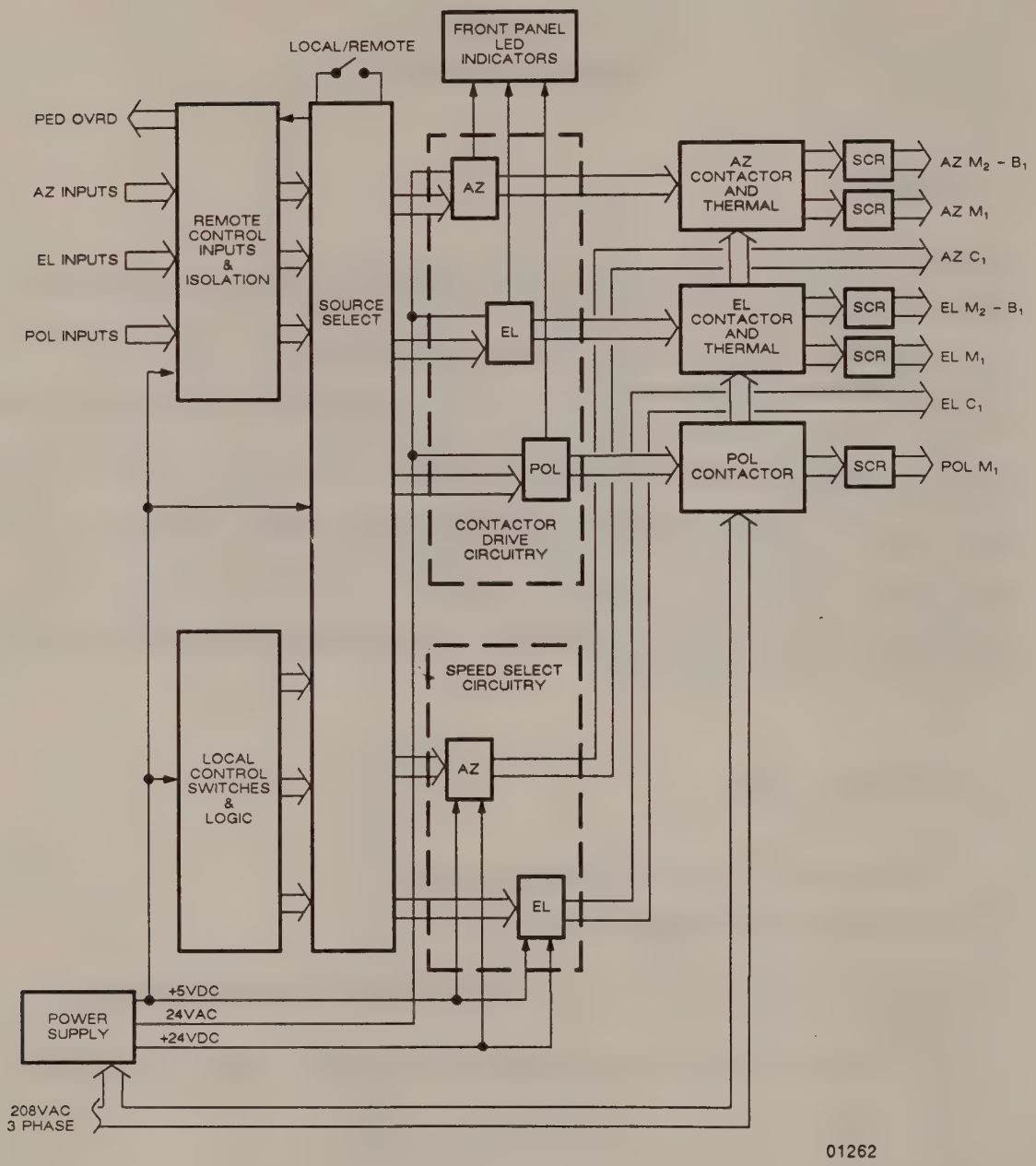

Figure 3-1. 8841B/A Block Diagram

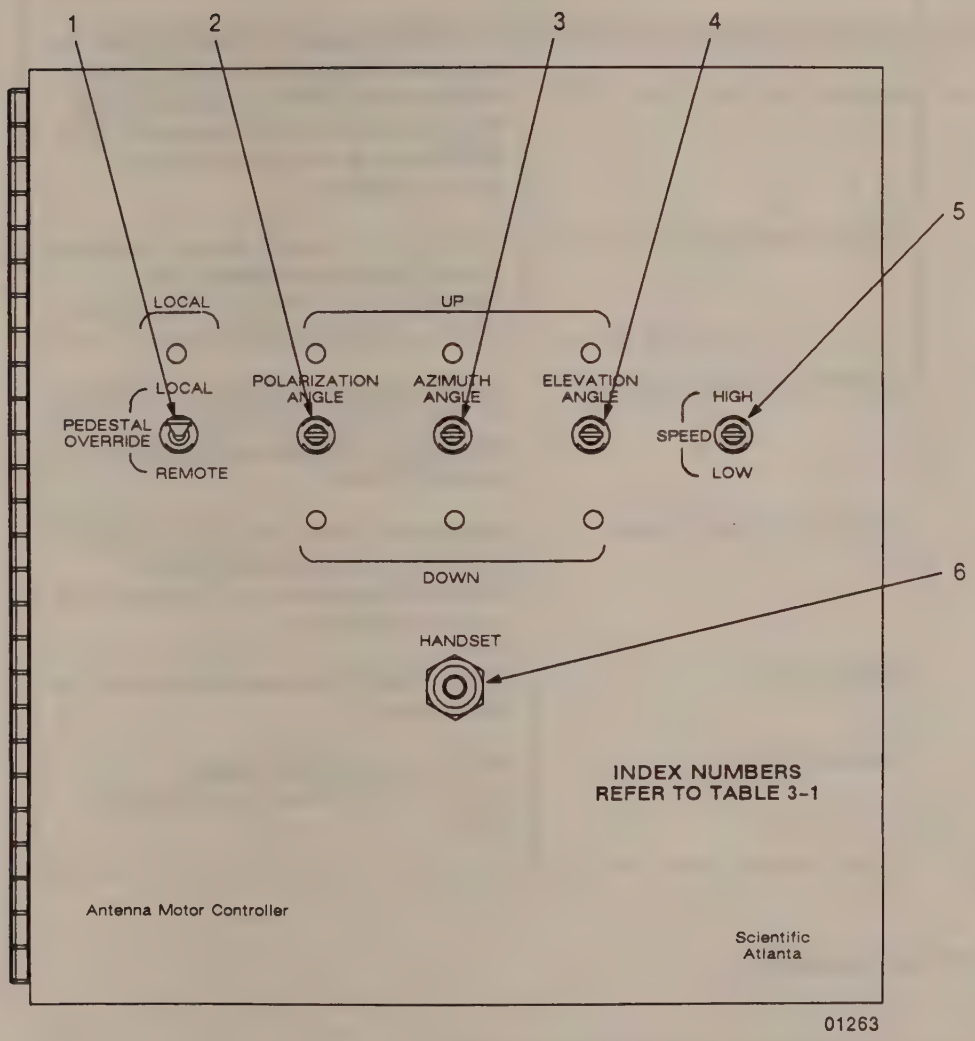

Figure 3-2. Model 8841B/A Front Panel Controls and Indicators

Table 3-1. Front Panel Control and Indicator Description

INDEX	NAME	FUNCTION
1	PEDESTAL OVERRIDE switch	In LOCAL position, the 8841B/A overrides front panel/keyboard command of the 8840A. In REMOTE position, the 8840A front panel/keyboard has command. LED indicates red at each location when in LOCAL position.
2	POLARIZATION ANGLE switch	Spring-loaded center off switch. Provides up or down direction command to the polarization drive actuator. LED indicates red for selected direction.
3	AZIMUTH ANGLE switch	Spring-loaded center off switch. Provides up and down direction command to the azimuth drive actuator. LED indicates red for selected direction.
4	ELEVATION ANGLE switch	Spring-loaded center off switch. Provides up and down direction command to the elevation drive actuator. LED indicates red for selected direction.
5	SPEED switch	Provides high or low speed command to the drive actuator.
6	HANDSET jack	This connector provides handset communication between the 8841B/A and 8840A.

3-3 NORMAL OPERATION.

a. Select SPEED HIGH or LOW on 8841B/A panel.

NOTE

Select SPEED HIGH for dual-speed azimuth and elevation actuators, and any single-speed actuator.

b. Perform the following steps as required.

1. Press POLARIZATION ANGLE switch UP or DOWN. Verify that LED indicates selected direction.

2. Press AZIMUTH ANGLE switch UP or DOWN. Verify that LED indicates selected direction.

3. Press ELEVATION ANGLE switch UP or DOWN. Verify that LED indicates selected direction.

3-4 SHUTDOWN.

a. Set PEDESTAL OVERRIDE switch on 8841B/A panel to REMOTE.

b. Verify that no LED indicators on 8841B/A panel are lit.

c. Disconnect handset from 8841B/A panel.

d. Close 8841B/A cover.

Section IV

PRINCIPLES OF OPERATION

4-1 GENERAL.

The 8841B/A antenna motor controller can independently and simultaneously control the azimuth, elevation, and polarization axes of the antenna. The unit is designed to operate with single-speed motors for the AZ/EL/POL axes, dual-speed motors for the AZ/EL axes, or two discrete motors for the AZ/EL axes. The two discrete motors per axis system requires clutches and brakes in the actuator assembly. The dual-speed motor system and the single-speed motor contain internal brakes but do not use clutches. The POL motor is always single speed. Except for SPEED SELECT circuitry for AZ and EL control, each motor channel is identical (Figure 3-1). SOURCE SELECT circuitry routes the selected input signals to the CONTACTOR DRIVE and SPEED SELECT circuits.

NOTE

Source selection originates at the Model 8840A front panel when the 8841A antenna motor controller is used and at the motor controller front panel when 8841B is used.

Contactor drive circuitry for AZ/EL/POL channels energizes appropriate contactors when axis selection is made by 8841B/A front panel switches. Speed selection applies to both AZ and EL channels at all times. Independent AZ or EL speed selection cannot be made.

4-2 POWER SUPPLY.

The 8841B/A power supply system is derived from the main, 3-phase power service which is connected to TB1 during installation (Section VII). Three-phase power is directly routed to the AZ/EL/POL contactors and the low voltage power supply.

NOTE

The 8841B/A domestic model uses phases B and C for input and the international model uses phase C and neutral.

The low-voltage power supply circuit consists of individual +15V dc and +24V dc modular power supplies and two relays, K1 and K2. The modular power supplies operate from 24V ac input. When +15V dc and +24V dc outputs are available, relays K1 and K2 energize to remove +15V and +24V return paths from the switch/controller.

4-3 SPEED SELECT.

The speed select command originates at the SPEED switch, S5, on the 8841B/A front panel when LOCAL mode has been selected. If REMOTE mode has been selected on the 8841B/A front panel, the speed command must be initiated at the 8840A.

4-3.1 Relay Drivers. The speed select signal is derived from source select logic (U14A, U14D, U11D). It is routed to solid-state relay driver circuitry and clutch/brake select logic. The solid-state relays, U41 and U42, are optically isolated power triacs and require a 3 to 32V dc drive signal for operation. Positive signal input to all the solid state relays is tied to +5V dc. Relay driver circuitry consists of inverter U10C which drives transistor switch Q11 which provides a ground path to the negative terminal of solid-state relays U41 and U42. When Q11 is turned on, the relays are switched on and current flows through them to the motors.

4-3.2 Clutch Brake Drivers. Circuitry for clutch/brake drivers, Models 8841A and 8841B differ. Refer to Section VII to follow circuit descriptions for each model.

4-3.2.1 8841A Clutch/Brake Driver. The AZ clutch driver consists of U12B, U18A, Q13, U47, Q7, and CR8. AND gate U18A and OR gate U12B determine when proper input signals are present to activate the clutch. A low-speed signal must be present and the IDLE line must be low, not IDLE. When these conditions are met, U18A supplies drive to Q13. Since the +24V dc supply is unfiltered, the SCR can be turned off by removing its drive signal. Brake circuitry consists of reversing contactors K3 for AZ and K4 for EL, when AZ or EL actuators are actual single-phase ac (domestic installations) is applied to release the brake. Convertors J1 and

J3 carry brake drive voltage for AZ and EL respectively. For single-speed actuator systems, these are the only motor connectors used for AZ and EL.

4-3.2.2 Model 8841B Clutch/Brake Driver. Transistor Q13 drives opto-isolator U47 which triggers transistor Q7 and applies 24V dc to the clutch. CR8 is used as a "catch" diode and appears to be across the clutch solenoid electrically. Brake drive circuitry has been removed from 8841B. AZ and EL axis brakes are released when reversing contactors K3 or K4 are closed. Three-phase brake voltage for AZ and EL is routed to J1 and J3, respectively.

4-4 SOURCE SELECT.

Source select circuitry determines which source has control of the antenna motor controller. Refer to Section VII for drawings and schematics. Source select circuitry comprises a set of AND/OR selection circuits which generate UP and DOWN axial signals, and HIGH or LOW speed signals. Since the channels are identical, only AZ circuitry is described. The UP select circuit consists of U6B, U6C, U9C, and U11B. The DOWN circuit comprises U7A, U7B, U9D, and U11B. Speed select circuitry consists of U14A, U14D, and U11D. The PEDESTAL OVERRIDE switch S1 on the 8841B/A front panel and U1A generate the LOCAL/REMOTE signals for selection. In LOCAL, U6B, U7A, and U14D cause an ENABLE to be generated by U11B. Pressing the AZIMUTH ANGLE switch S3 generates a direction signal and energizes the AZ contactor drive. The SPEED switch S5 on the 8841B/A front panel is enabled through U14D when LOCAL mode has been selected. The SPEED selection signal is routed to the clutch and relay driver circuits to control the axial speed. When the PEDESTAL OVERRIDE switch is in REMOTE position, U6C, U7B, and U14A cause remote control lines to be selected. The remote ENABLE signal completes remote input selection requirements. The contactor drive and SPEED signals are generated as described in LOCAL mode.

NOTE

When the PEDESTAL OVERRIDE switch is in REMOTE position, only an ENABLE signal is required to activate an axis. The circuitry assumes that the direction lines are in the desired state.

The LOCAL or REMOTE signal generated by the PEDESTAL OVERRIDE switch is used by U12D and U46 to generate a signal to the 8840A which indicates which mode has been selected at the 8841B/A. The remote

controller cannot command the 8841B/A if LOCAL has been selected. S1 on the 8841B/A is connected to U1E which drives a front panel LED for visual indication of mode selection.

4-5 REMOTE INPUTS.

Remote control inputs required to operate the 8841B/A are listed in Table 4-1. These signals are routed through remote control connector J11 to the printed circuit board. Each signal is optically isolated as it enters the 8841B/A. This is accomplished by opto-isolators U20 - U29. Only a contact closure between the signal input and the CGND line of the 8841B/A is required to activate a signal line. A common ground is not needed between the 8841B/A and the remote control unit.

Table 4-1. Remote Control Lines

Azimuth	Elevation	Polarization
AZIMUTH	ENABLE	ENABLE
DIRECTION	DIRECTION	DIRECTION
SPEED	SPEED	
IDLE	IDLE	

ENABLE and DIRECTION lines are used in all three motor channels, but SPEED and IDLE lines are only required to control the azimuth and elevation channels. IDLE circuitry is removed from the 8841B/A. The purpose of each signal is implicit in the name of the signal. (The IDLE signal should always be tied low as its use is reserved at this time.) To operate the unit remotely, the SPEED (azimuth and elevation) and DIRECTION lines should be set to the desired levels. When the ENABLE line is toggled low, the channel is activated and power is applied to the actuator. These signals are routed to the source select circuit.

4-6 LOCAL INPUTS.

All local inputs originate from the front-panel toggle switches of the 8841B/A. Each motor channel has an associated switch which allows the operator to move any of the three axes up or down. Since each channel is identical, only the azimuth channel and its associated components are described her.

The AZIMUTH ANGLE command originates at switch S3 on the 8841B/A front panel. This switch controls the input to inverters U1B and U1D. The input to these gates is normally pulled up through U37-5 and R27, with R27 and C12 forming a switch debounce circuit. (Switch debounce circuitry is removed on 8841B.) The output of the inverters is routed to the source select circuit.

4-7 HIGH-VOLTAGE CONTACTOR.

The azimuth contactor circuit components are described here. The EL and POL contactor circuits are identical.

The contactors are mechanically interlocked and reversing type. Each contactor consists of two relay sections built to eliminate the possibility that the relays can be simultaneously engaged. Each relay section has four sets of contacts: three normally open sets and one set normally closed. The three-phase power input side of the relays is wired in parallel, while the outputs are wired so that two of the three phases are reversed when alternate sections of the contactor are energized. This allows reversal of the direction of rotation of the three-phase actuator motors.

Each output leg of each contactor is equipped with a thermal overload relay, sized to provide overcurrent protection for each motor driven by the contactor when the motor full load current rating is exceeded. Refer to Figures 4-1 and 4-2. CB1 and CB3 provide protection for the primary and secondary drive motors on the azimuth actuator. Two overload relays are installed on the AZ and EL contactors and only one overload relay for the POL contactor. In single-speed systems, the slow-speed overload relays used on AZ and EL, CB1 and CB4, are not functional. However, power remains applied to the secondary (slow-speed) motor connectors, J2 and J4, on the 8841B/A whenever the contactors are energized. It is important that these connectors be capped. Note that thermal relays are connected as a part of the contactor drive circuit.

Two output phases of the primary AZ motor thermal overload relay, CB1, pass through solid-state relays, U41 and U42 which are driven by the speed-select circuitry. In single motor systems, the motor receives power through these solid-state relays. Therefore, when the unit is operated in the LOCAL mode, the SPEED switch must always remain in HIGH. Likewise, when the unit is operated remotely, the SPEED line must remain in high.

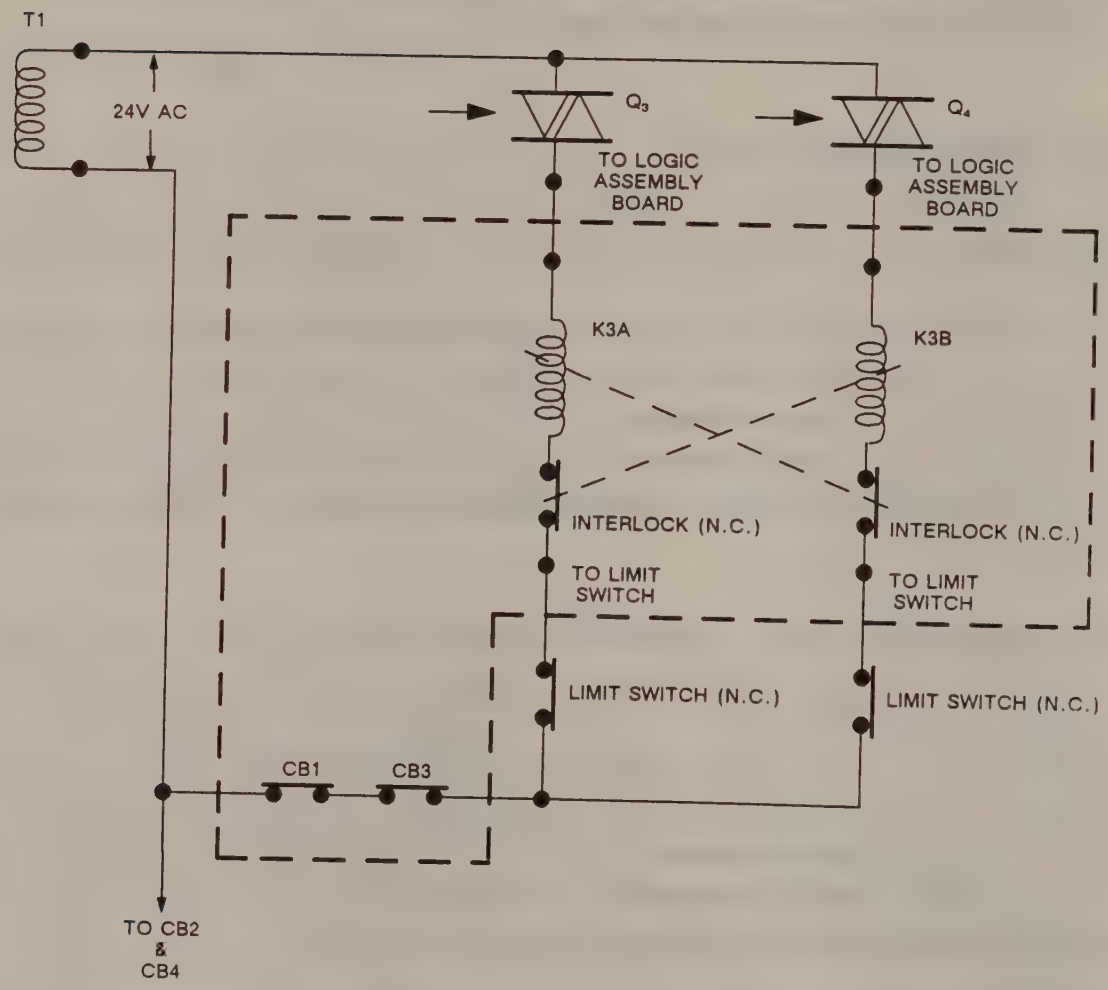

Figure 4-1. Contactor Solenoid Circuit

4-8 CONTACTOR DRIVE.

The contactor drive circuit (Figure 4-1) consists of transformer T1, the contactor (K3A and K3B), limit switches, thermal overload relays (CB1 and CB3), and the switching devices. Contactor solenoids require an operating voltage of 24V ac. The complete contactor solenoid circuit contains several switches in series with the power source (T1). Refer to Section VII. These switches include the triac, the limit switch, the thermal overload relays, and the electrical interlock of the contactors. If any one of these switches is opened, power is removed from the solenoid. Each component of the contactor circuit is discussed in the following paragraphs.

4-8.1 Triac Driver. Contactor drive circuitry consists of identical UP and DOWN drive circuits. For description purposes, only the azimuth UP section is described in detail. Refer to Section VII.

The UP driver circuit consists of U45C, U32, and Q3. The input to U45C is derived from the source-select circuit. U45C drives the front-panel LED indicator CR4 and the optically-isolated triac. R7, R13, and C6 form a snubber network for the triac driver. Q3 is used as a switch to control the 24V ac to the contactor solenoids.

4-8.2 Limit Switch. The azimuth UP limit switch is located on the azimuth actuator. It consists of two independent switch sections. One section is normally closed and is wired in series with the contactor UP solenoid. The other section is normally open and is electrically a part of the remote control unit circuitry. It is routed through the 8841B/A to the remote control unit.

If the antenna is moved into an UP limit, the normally closed switch section opens and removes power from the contactor. The normally open switch section closes and provides a contact closure to the remote control unit. When the actuator is moved back within limits, the switches revert back to their original positions and allow normal operation.

4-8.3 Thermal Overload. The thermal overload relays are connected to the output side of the contactors. These units protect the motor attached to its output from a prolonged overload condition. Each thermal unit is selected to actuate when the full load running current of the associated motor is exceeded. Figure 4-2 shows the manufacturer's graph of the trip time in terms of multiples of full load motor current. The trip setting of the thermal overload relay will vary with the full load current of the motor used. Refer to the antenna installation information shipped with each motor controller for the proper current setting of the thermal overload.

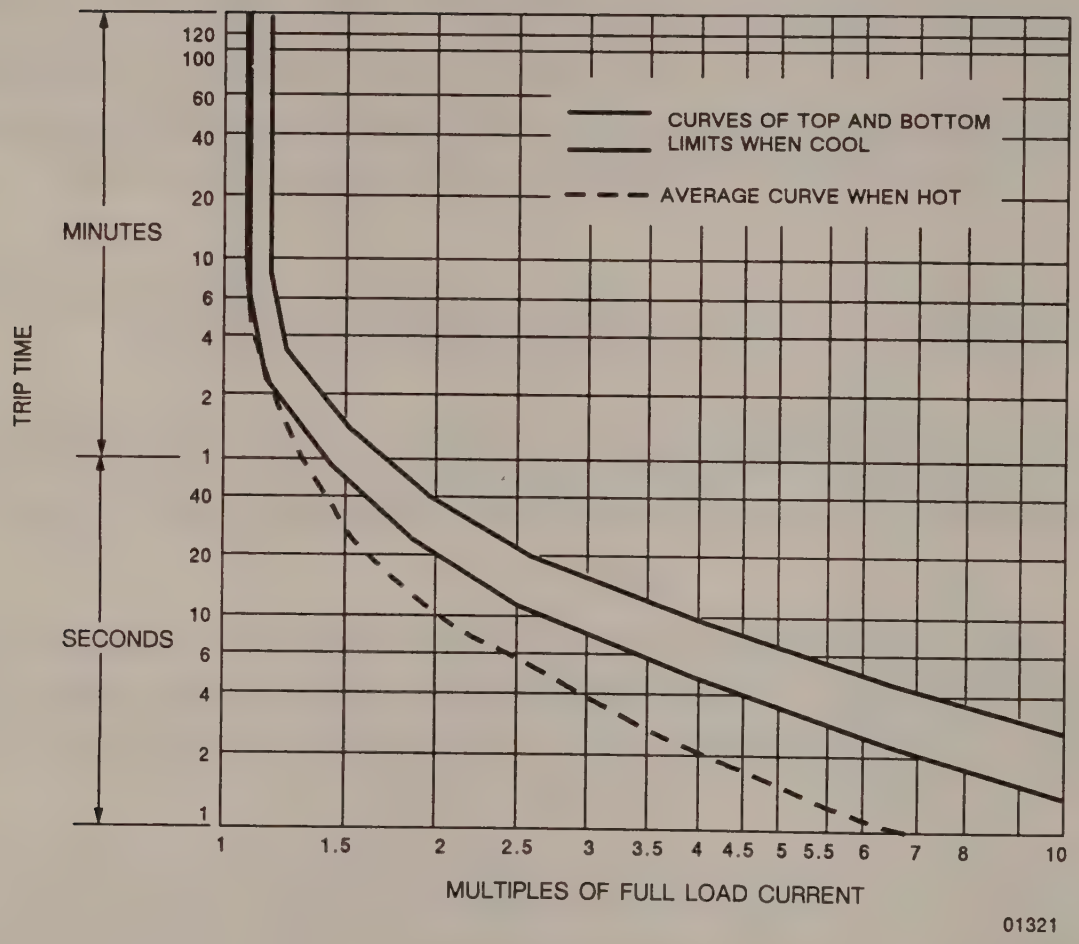

Figure 4-2. Overload Relay Trip Characteristics

Thermal overload relays do not interrupt the three-phase power to the motor directly. The three phases pass through heating elements in the body of the relay. A bimetallic element, mounted in close proximity to the heating elements, will trip and open the contactor coil circuit. These units are not self-resetting. To reset, press the red button on the top of the thermal overload unit.

4-8.4 Contactor Interlocks. The contactor interlock switches are the normally closed set of contacts in each relay. These switches are wired so that when one of the contactor sections is energized, the other contactor solenoid circuit is broken. This feature, along with the mechanical interlock, provides redundant protection against both contactor sections activating simultaneously.

4-9 MODEL 8841A AND MODEL 8841B DIFFERENCES.

The following paragraphs describe the differences between Models 8841A and 8841B antenna motor controllers. The areas discussed are the control logic assembly and the bottom plate assembly (relay and contactor assembly). The discussion identifies what changes have been made to create the B version from the A version. Refer to Section VII.

4-9.1 Control Logic Assembly. The following changes have been made to create 8841B from 8841A.

a. AZ and EL input circuitry at J12 pins 6 and 9 removed.

b. AZ and EL brake drive circuitry removed.

c. Q7, Q9, and C16 added to provide pure dc to the clutch if separate low and high speed motors are used in a dual-speed actuator antenna system.

d. Q14, Q16, and associated components added to drive additional solid state relays used for AZ and EL low speed operation.

e. AZ and EL outputs for high speed operation are at J12 pins 11 and 13, respectively.

f. AZ and EL outputs for low speed operation are at J13 pins 20 and 21, respectively.

g. Q11, Q12, Q14, and Q16 now have RC networks connected to their bases. The RC networks delay operation changes from low to high-speed, or vice versa, by approximately 100 ms. This prevents driving the motors simultaneously at both low and high speed.

4-9.2 Bottom Plate Assembly. The following changes have been made to create 8841B from 8841A.

a. U45 and U46 solid state relays added to control low speed AZ operation.

b. U47 and U48 solid state relays added to control low speed EL operation.

c. U41 and U42 solid state relays now control high speed AZ operation.

d. U43 and U44 solid state relays now control high speed EL operation.

e. Three-phase brake circuitry is now active whenever motor operation is initiated.

Section V

MAINTENANCE INSTRUCTIONS

5-1 GENERAL.

The Model 8028M mount (pedestal) is designed for minimal maintenance. All pivot points are self-lubricating and require no lubrication. The azimuth and elevation actuators contain a gear box and a ballscrew mechanism which require annual inspection and lubrication. The drive units are integral assemblies of motors, clutches, brakes, and gearing. They require no service for the life of the unit. Use only authorized parts and lubricants in any repair or service of the pedestal. Any alterations or service not specifically described in this manual and not authorized by the contractor can void the warranty.

5-2 PREVENTIVE MAINTENANCE.

At intervals no greater than one year, perform the following procedure.

a. Check condition of the pedestal foundation. Repair as required.

b. Check structural condition of pedestal mount. Tighten or replace any loose or missing fasteners.

c. Inspect pedestal mount for corrosion. Correct existing corrosion per 5-2.1.

d. Inspect all cotter pins and other pin retainer devices. Replace if damaged or corroded; tighten if loose.

e. Inspect AZ and EL actuators for quantity and condition of lubricant using procedures in 5-2.2 and 5-2.3.

5-2.1 Touch-Up Painting. If significant corrosion is found on any part of the antenna mount or backing structure, repair immediately as follows:

a. Material Required

(1) Sandpaper - 320 grit

(2) Volatile solvent cleaner - toluene, naphtha, or lacquer thinner

(3) Primer - Rust-Oleum No. 1573 - light rust
Rust-Oleum No. 769 - heavy rust

(4) Paint - Rust-Oleum gloss, white
No. 2192 - spray can
No. 2766 - 1-gallon can

(5) Heavy duty detergent

b. Wipe damaged portion of finish and surrounding area with solvent to remove oily deposits. Do not allow solvent to stand on painted areas.

c. Wash area thoroughly with detergent, rinse thoroughly with water, and allow to dry.

d. Sand areas to remove rust. Feather a smooth finish from existing painted surface into areas to be repainted. Remove all loose paint and rust.

e. Completely cover rusted metal with primer. Use Rust-Oleum No. 769 for heavy rust or Rust-Oleum No. 1573 for light rust or bare metal.

f. Topcoat primed areas with Rust-Oleum gloss, white paint. Follow application instructions on cans.

5-2.2 Actuator Screw-Jack Lubrication.

CAUTION

Use only the following low-temperature greases in actuators:

- Texaco Low Temperature #2346 (MIL-G-23827A)
- Shell Aeroshell #7 (MIL-G-23827A)
- Mobil Low Temperature #28 (MIL-G-81322C)
- Mobil Mobiltemp SHC32

a. Extend actuator to full length.

b. Remove boot clamp at end of screw.

c. Slide boot back to expose full length of screw.

(1) If screw is coated with grease and grease appears in good condition, no further action is necessary.

(2) If screw is not adequately coated or grease is dry, hard, or contaminated, lubricant must be renewed. Do not add new grease to old grease on screw.

NOTE

If grease on screw is good, omit steps d, e, and f.

d. Use solvent to clean screw of old grease.

e. Dry screw with clean cloths.

f. Apply a thin uniform coating of suitable low-temperature grease.

g. Slide boot over screw and install clamp.

5-2.3 Gearbox Lubrication.

CAUTION

When lubricating fittings A and C, take care to prevent excess grease from damaging seals around motor shaft and jack housing.

a. Remove grease fitting A located on gear box (Figure 5-1).

b. Add grease through fitting B until grease appears for fitting A.

c. Replace grease fitting A.

d. Add grease to fitting C to lubricate ball nut.

5-3 OPERATIONAL CHECKOUT.

Checkout of the pedestal as a stand-alone system component is entirely manual. Verification of proper pedestal operation in this condition amounts to manual mechanical operation of the azimuth and elevation actuators. It would be performed after installation or replacement, or for trouble-shooting. Refer to Section VII for applicable drawings. Operational checkout of the pedestal when under electronic or electrical control is presented in 55A200Z End-to-End Antenna and RF Equipment Subsystem manual and 55S383Z End-to-End Test RF Equipment System manual.

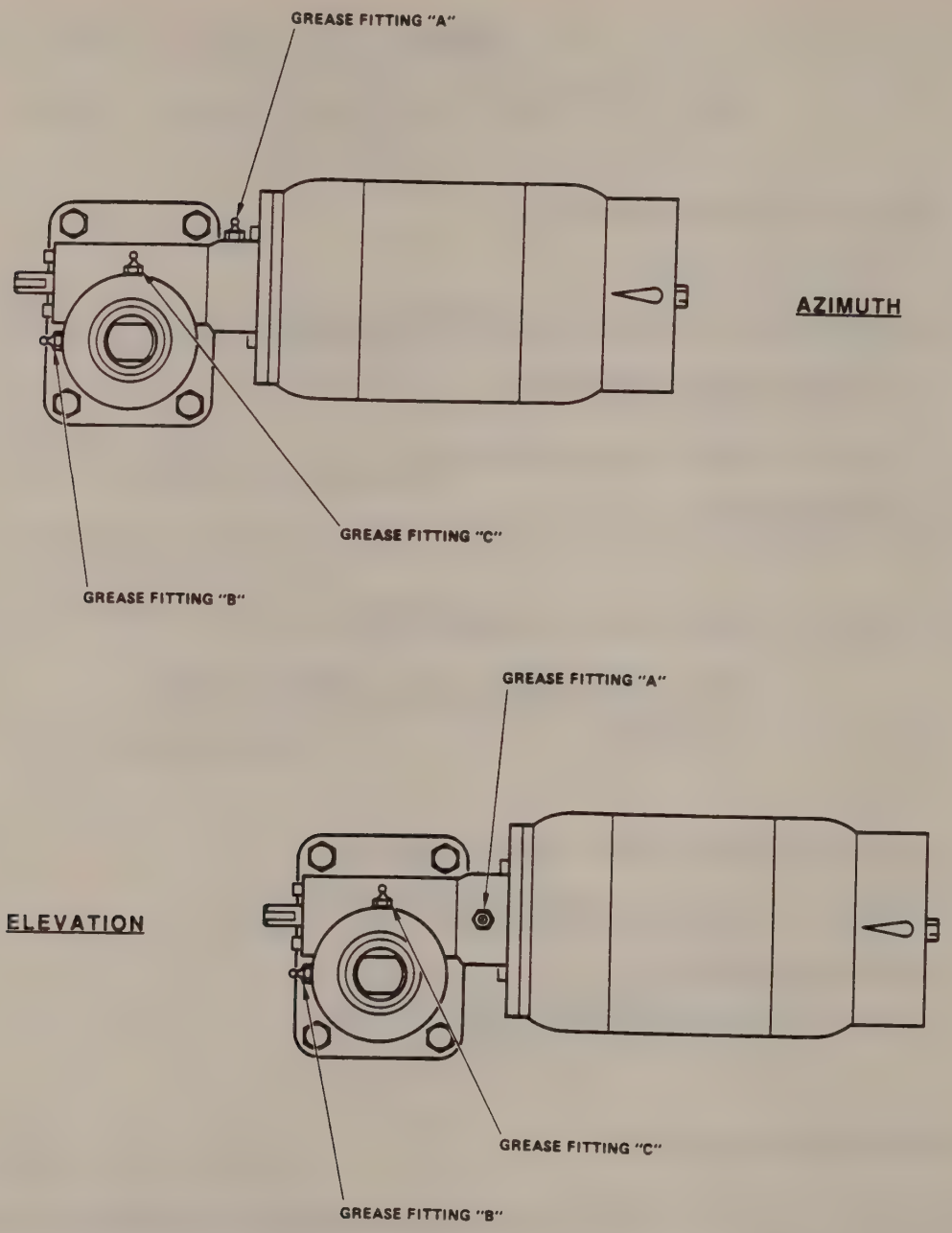

Figure 5-1. Actuator Lubrication Points

5-3.1 Manual Actuator Checkout. This procedure is identical for azimuth and elevation actuators. Refer to Figure 2-3.

CAUTION

Limit switches must be removed before attempting manual actuator operation to prevent interval damage to pedestal control circuitry.

a. Verify that limit switches are removed.

b. Rotate two external release arms 90 degrees to release motor brake.

c. Connect 3/4-inch wrench or drill motor with 1/2-inch or larger drive to motor shaft that extends through brake housing.

d. Operate actuator to ensure smooth travel with no binding.

e. Remove wrench or drill from motor shaft.

f. Return two release arms to original position to set motor brake.

5-4 TROUBLESHOOTING.

The pedestal equipment is designed to be very reliable. Should a problem occur, follow the general procedures shown below.

a. Determine that fault lies within equipment under test. Eliminate possibilities of external control and/or drive problems.

b. Check for simple problems such as loose connections.

c. Check gears for binding or pedestal assemblies for loosely attached hardware.

d. Refer to Section V of the 55S383Z End-to-End Test RF Equipment System manual.

e. If problem requires extensive checks or complete overhaul, ship unit to Scientific-Atlanta for repair. Contact Scientific-Atlanta prior to shipment.

5-5 REPAIR.

Repair of the pedestal consists of removal and replacement of line replaceable units (LRU). Pedestal LRUs include the azimuth and elevation motorized actuators, potentiometers, and limit switches. Refer to Section V in the 55S383Z End-to-End Test RF Equipment System manual.

5-6 ADJUSTMENTS.

Adjustments are a function of the antenna operation. Refer to the 55A200Z End-to-End Antenna and RF Equipment Subsystem manual.

Section VI
PARTS LIST

6-1 INTRODUCTION.

This section provides parts lists for the drawings in Section VII of this manual. Parts lists are presented in numerical order by assembly number within this section. Occasionally parts lists are on the drawings in which case a separate parts list will not be duplicated in this section. Refer to Table 6-1.

6-2 PARTS LIST

The parts list describes the parts illustrated on the assembly drawings. Use the information for identifying and requisitioning parts, and as an aid in disassembly/assembly procedures.

6-2.1 Explanation of Parts Lists Column Headings. The parts lists are separated into main groups or assemblies and keyed to associated assembly drawings(s) by item, find number, and/or reference designation.

a. REF DESIG. This column lists the item, find number, or reference designation by which each part is called out on the drawing related to the parts list. Reference designation may also be found on the applicable schematic diagram.

b. PART NUMBER/DESCRIPTION. This column contains the Scientific-Atlanta part number and a brief electrical or mechanical description of the part.

c. QUANTITY PER ASSEMBLY. This column contains the number of units of this part in the group or assembly. As required, (A/R) abbreviation indicates that the quantity required is determined when the unit is installed/repaired. The notation (.) indicates that this part is not assigned/used and has a quantity of zero.

d. VENDOR. This column contains an alpha code for the vendor. If this column is blank, the vendor is Scientific-Atlanta (CAGE/FSCM 10110).

e. MANUFACTURERS PART NUMBER. This column contains the manufacturer's part or identification number. If this column is blank, order by description.

f. CAGE CODE. This column contains Commercial and Government Entity (CAGE) codes. The code numbers are from the Defense Logistics Agency CAGE Name-to-Code and Code-to-Name handbooks effective on the publication date of this manual.

g. APPLICABLE DOC NUMBER. This column lists applicable documents related to the part number, i.e., schematics, etc.

h. REV. This column contains the current revision level of this part number.

i. ECN. This column lists ECN activity recorded against this part number.

6-2.2 Ordering Parts. When ordering parts from Scientific-Atlanta, always include the Scientific-Atlanta part number, the part description, the unit serial number, unit name, subassembly, part manufacturer, and manufacturer's part number.

Table 6-1. Parts Lists

Parts List Number	Title	Page Number
263196	AZ and EL Potentiometer Installation Kit	6-3
363905	Antenna Motor Control Unit 8841B-XX Top Assembly	6-4
446950	End-to-End System Assembly - GE	6-5
447281	4.5M Reflector	6-10
448004	Power Supply Assembly	6-12

SCIENTIFIC ATLANTA, INC.
REPORT NO HDE080
REQUESTED BY KPM LEE

BILL OF MATERIAL - SINGLE LEVEL EXPLOSION

EFFECTIVITY DATE: ALL

DATE PRINTED 3/07/89

LEVEL	ITEM	PART NO.	EN RV	DESCRIPTION	TYP CDE	ENG REF	NEW DATES UNTIL	NEW DATES FROM	BA	LED TME	QTY PER	B F	UM	TOTAL QTY
		PARENT												
		E263198	D	KIT,AZ EL POT INST, 7.0	MFG				44	3			EA	1
		COMPONENT												
..4	001	E263438	B	BRACKET POT MTG LEFT SIDE AZ- 7.0 METER	PUR				44	50	1.		EA	1
..4	002	E337097	B	ASSY,POT DRIVE-AZ 7.0M & 10.0M	MFG				EK	4	1.		EA	1
..4	003	E260517		SHAFT POT DRIVE-7 METER	PUR				44	50	1.		EA	1
..4	004	E263437	B	BRACKET POT MTG RIGHT SIDE AZ- 7.0 METER	PUR				44	60	1.		EA	1
..4	005	E337098	B	ASSY, POT DRIVE-EL 7.0M & 10.0M	MFG				EK	4	1.		EA	1
..4	006	E268444		BRACKET,POT MOUNTING,EL-7 METER	PUR				44	50	1.		EA	1
..4	007	E370187		DRIVER,POT-7M C-BAND ELEVATION	PUR				44	40	1.		EA	1
..4	100	E172172		COUPLING FLEX DISC 1/4 X 1/4 BORE ALUM	PUR				22	60	2.		EA	2
..4	101	E172173		CLAMP CPLNG HUB SPLIT 3/8 BORE CD PL ST	PUR				22	60	4.		EA	4
..4	200	E072488		SCREW 1/4-20 X 1/2 CAP,HEX HD,CAD PLT	PUR				22	30	7.		EA	7
..5	201	E073278		WASHER-NO1/4- .281 .625 .065 CAD PL STL	PUR				22	30	7.		EA	7
..5	202	E073277		WASHER 1/4 LOCK, SPLIT, CAD PLT STL	PUR				44	30	7.		EA	7
..4	203	E072467		SCREW 10-24 X 1 IN. TRIM HEX HD CAD PLT	PUR				44	30	8.		EA	8
..5	204	E071504		NUT 10-24 UNC-2B,GRADE 5 STL,CAD PL	PUR				22	30	8.		EA	8
..5	205	E073273		WASHER NO. 10 LOCK, SPLIT, CAD PLT STL	PUR				44	30	8.		EA	8
..5	206	E079145		WASHER-NO.10- .219 .438 .049 CAD PL STL	PUR				22	20	16.		EA	16
..4	207	E072480		SCREW 1/4-20X1/4 SET,HX SOC,CUP PT,CD PL	PUR				44	30	2.		EA	2

* END OF REPORT *

SSP139Z

SCIENTIFIC ATLANTA, INC.
REPORT NO HDEO80
REQUESTED BY KPMELVIN/JC

BILL OF MATERIAL - SINGLE LEVEL EXPLOSION

EFFECTIVITY DATE: ALL

DATE PRINTED 11/16/89

LEVEL	ITEM	PART NO.	EN RV	DESCRIPTION	TYP CDE	ENG REF	NEW DATES UNTIL	NEW DATES FROM	BA	LED TME	QTY PER	B F	UM	TOTAL QTY
		PARENT												
		E363905	C	ASSY,TOP 8841B-220 ANT.MOT.CU	MEQ				22	2			EA	1
		COMPONENT												
..5		E266247		BAG,ANTI-STATIC 10IN.X14IN	PUR									
..3		E282034		PROC,TEST-8841B DOM. MODELS	PUR				22	20	1.		EA	1
..3		E282059		SCHEM.DIAG-8841B DOM. MODELS	PUR						.	Z	EA	0
..4		E362533	A	SPEC.,EQUIP-8841B	PUR						.	Z	EA	0
..3		E362534		SCHEM-8841B SYSTEM	RAW						.	Z	EA	0
..3		E69S029		CATALOG,NTR WIRING INST REF FOR 884	PUR						.	Z	EA	0
..4	1	E362521	A	MAN.-8841B SERVICE	PUR				44	20	1.		EA	1
..5	2	E362528		ENCLOSURE-8841B ANT.MOT.CONT.	PUR				44	20	1.		EA	1
..5	3	E362529	A	HINGE,PANEL,FRONT-8841B	PUR				33	45	1.		EA	1
..3	4	E175206		RAIL,MTG,LEFT-8841B	MFG				44	30	2.		EA	2
..4	5	E175193		GASKET CORD TEFLON 3/32 IN.DIA X 50	PUR				JM	10	1.		EA	1
..4	6	E081172		CHEMICAL CORROSION INHIBITOR FR 10	PUR				44	20	4.	F	FT	4
..6	7	E072367		SPACER 6-32 ID 1/4 OD 1/4 L NI PL	PUR				22	60	1.		EA	1
..5	8	E018141	C	SCREW 6-32 X 1/2 PAN HD,SST	PUR				22	20	4.		EA	4
..3	A 1	E337065	F	LABEL 2 IN. BLANK	PUR				22	30	36.		EA	36
..4	A 2	E362526	C	ASSY,SUB-UNIT 8841B	MFG				33	35	1.	F	EA	1
..3	CB 1	E172130		ASSY,PANEL,FRONT-8841B	MFG				EK	4	1.		EA	1
..3	CB 2	E172130		CIRCUIT BRKR THERMAL MANUAL RESET 9	PUR				EK	2	1.		EA	1
..3	CB 3	E171680		CIRCUIT BRKR THERMAL MANUAL RESET 9	PUR				11	30	1.		EA	1
..3	CB 4	E171680		CIRCUIT BRKR THERMAL MANUAL RESET 1	PUR				11	30	1.		EA	1
..3	CB 5	E172199		CIRCUIT BRKR THERMAL MANUAL RESET 1	PUR				11	30	1.		EA	1
				CIRCUIT BRKR THERMAL MANUAL RESET	PUR				11	30	1.		EA	1

* END OF REPORT *

04/10/91 WDS231 SA-ELECTRONIC SYSTEMS GROUP SHEET: 1

CAGE:10110 P A R T S / D A T A L I S T REQUESTED BY CG

PDL: 446950 REV: P1 TITLE: SYSTEM ASSEMBLY- GE END TO END

REV	ECN	RELEASE DATE	DATE EFFECTIVE	APPROVAL ENG	SIG	Q.A.	SIG
-		05-08-90	05-08-90		_____		_____
P1		12-11-90	12-12-90		_____		_____

CAGE:10110 P A R T S / D A T A L I S T REQUESTED BY CG

PDL: 446950 REV: P1 TITLE: SYSTEM ASSEMBLY- GE END TO END

REF DESIG	PART NUMBER/ DESCRIPTION	QUANTITY PER ASSEMBLY	VENDOR	MANUFACTURERS PART NUMBER U/M	CAGE CODE	APPLICABLE DOC NUMBER	R E V ECN
1	M447888 7 METER MOTORIZED MT ASSY, MODIFICATION DRAWING	1.00		EA PER SA DWG 447888	42061	447888	
2	M446932 ANTENNA ASSY, STGT, END-TO-END	1.00		EA PER SA DWG 446932	42061	446932	
3	M363905 ANTENNA MOTOR CONTROLLER	1.00		EA PER SA DWG 363905		363905	
4	M446795 ELECTRONICS RACK ASSEMBLY	1.00		EA PER SA DWG 446795	10110	446795	
6	M446793 REFLECTOR MOUNTING PLATE, GE END-TO-END	1.00		EA PER SA DWG 446793	10110	446793	
7	M444917 POINT,LIGHTING ROD,36 IN.LONG BY 0.5 IN DIA	2.00	VEN247330	EA 660	14559		
8	M444918 CONNECTOR,SWIVEL,LIGHTING,ROD	2.00	VEN247330	EA 27	14559		
9	M444919 CONNECTOR,VERTICAL,LIGHTING,ROD	2.00	VEN247330	EA 690	14559		
10	M414011 CABLE 4/0AWG NEOPRENE JACKET WELDING	45.00		FT 17413	81774	414011	
11	M444921 TERMINAL,BUS	1.00	VEN247330	EA 551X	14559		
12	M444920 SPLICER,TEE	1.00	VEN247330	EA 706	14559		
13	M087742 CABLE TIE W/ #10 MTG HOLE	16.00		EA SSC-25-S10 M	06383		
14	M447595 BRACE, RACK MOUNT	2.00		EA PER SA DWG 447595	42061	447595	
15	M447596 MOUNT, RACK, UPPER	1.00		EA PER SA DWG 447596	42061	447596	
16	M447597 STRUT, RACK MOUNT	1.00		EA PER SA DWG 447597	42061	447597	
17	M447598 MOUNT, RACK TO TUBE	1.00		EA PER SA DWG 447598	42061	447598	

CAGE:10110 P A R T S / D A T A L I S T REQUESTED BY CG

PDL: 446950 REV: P1 TITLE: SYSTEM ASSEMBLY- GE END TO END

REF DESIG	PART NUMBER/ DESCRIPTION	QUANTITY PER ASSEMBLY	VENDOR	MANUFACTURERS PART NUMBER	U/M	CAGE CODE	APPLICABLE DOC NUMBER	R E V ECN
18	M447726 SPACER, RACK	2.00		PER SA DWG 447726	EA	42061	447726	
20	M072492 SCREW 1/4-20 X 5/8 CAP,HEX HD,CAD PLT	14.00		PER MS90725-5	EA	96906		
21	M073278 WASHER-NO1/4- .281 .625 .065 CAD PL STL	20.00		PER SA SPEC 681010	EA	80204		
22	M071508 NUT 1/4-20 UNC-2B HEX HI-STR CAD PLT	4.00		PER MS51967-2	EA	96906		
25	M072455 SCREW 10-24 X 1/2 TRIM HEX HD CAD PLT	16.00		PER ANSI B18.6.3	EA	80204		
26	M073276 WASHER-NO.10- .219 .500 .049 CAD PL STL	16.00		ANSI B18.22.1	EA	80804		
29	M072651 SCREW 1/2-13 X 1 1/2 CAP,HEX HD,CAD PLT	1.00		PER MS90725-113	EA	96906		
30	M072653 SCREW 1/2-13 X 1 3/4 CAP,HEX HD,CAD PLT	19.00		PER MS90725-114	EA	96906		
31	M072655 SCREW 1/2-13 X 2 IN. CAP,HEX HD,CAD PLT	4.00		PER MS90725-115	EA	96906		
32	M073286 WASHER-1/2-.531 1.062.095 CAD PL STL	10.00		PER SA SPEC 681010	EA	80204		
33	M073285 WASHER 1/2 LOCK, SPLIT, CAD PLT STL	10.00		ANSI B18.21.1	EA	80204		
34	M071518 NUT 1/2-13 UNC-2B HEX HI-STR CAD PLT	4.00		PER MS51967-14	EA	96906		
35	M072726 SCREW 3/4-10 X 2 1/4 CAP,HEX HD,CAD PLT	9.00		PER MS90725-188	EA	10110		
36	M073292 WASHER- 3/4- .812 1.469 .134 CAD PL STL	9.00		PER SA SPEC 681010	EA	80204		
37	M072717 SCREW 3/4-10 X 1.25 CAP SOC HD CAD PLT	2.00		PER SA SPEC 681009	EA	96906		
38	M447878 SPACER, UPPER	2.00		PER SA DWG 447878	EA	42061	447878	

CAGE:10110 P A R T S / D A T A L I S T REQUESTED BY CG

PDL: 446950 REV: P1 TITLE: SYSTEM ASSEMBLY- GE END TO END

REF DESIG	PART NUMBER/ DESCRIPTION	QUANTITY PER ASSEMBLY	VENDOR	MANUFACTURERS PART NUMBER	U/M	CAGE CODE	APPLICABLE DOC NUMBER	REV ECN
39	M447879 SPACER, LOWER	2.00		PER SA DWG 447879	EA	42061	447879	
40	M447625 MOUNT, WAVEGUIDE	6.00		PER SA DWG 447625	EA	42061	447625	
41	M447626 CLAMP, WAVEGUIDE MOUNT	6.00		PER SA DWG 447626	EA	42061	447626	
42	M447627 WAVEGUIDE,LOWER TUBE	1.00		PER SA DWG 447627	EA	42061	447627	
43	M447628 WAVEGUIDE,UPPER TUBE	1.00		PER SA DWG 447628	EA	42061	447628	
44	M449317 WAVEGUIDE,FLEXIBLE, WR62, 12.0 IN LGTH	1.00	VEN154535	MCKS62-501(N)-12A	EA	04647		
45	M449479 WAVEGUIDE ASSY, WR62, FLEX/TWIST, 5 FT.	1.00	VEN154535	MTPS62-500-N-60A	EA	04647		
46	M447620 INTERFACE PANEL,IFL	1.00		PER SA DWG 447620	EA	42061	447620	
50	M072372 SCREW 6-32 X 1/2 SOC CAP SST	20.00		PER MS16995-18	EA	96906		
52	M073268 WASHER NO. 6 LOCK, SPLIT, CAD PLT STL	20.00		ANSI B18.21.1	EA	80204		
55	M072465 SCREW 10-24 X 7/8 TRIM HEX HD CAD PLT	6.00		PER ANSI B18.6.3	EA	80204		
56	M087910 SCREW 10-32 X 1.0 CAP,SOC HD,CAD PLT	12.00		ANSI B18.3	EA	02660		
57	M079145 WASHER-NO.10- .219 .500 .049 CAD PL STL	18.00		ANSI B18.22.1	EA	80204		
60	M075829 SCREW 3/8-16 X 1 1/2 CAP,HEX HD,CAD PLT	2.00		PER MS90725-64	EA	96906		
61	M072589 SCREW 3/8-16 X 1 3/4 CAP,HEX HD,CAD PLT	4.00		PER MS90725-65	EA	96906		
62	M073282 WASHER- 3/8- .406 .812 .065 CAD PL STL	12.00		PER SA SPEC 681010	EA	80204		

04/10/91 WDS231 SA-ELECTRONIC SYSTEMS GROUP SHEET: 5

CAGE:10110 P A R T S / D A T A L I S T REQUESTED BY CG

PDL: 446950 REV: P1 TITLE: SYSTEM ASSEMBLY- GE END TO END

REF DESIG	PART NUMBER/ DESCRIPTION	QUANTITY PER ASSEMBLY	VENDOR	MANUFACTURERS PART NUMBER	U/M	CAGE CODE	APPLICABLE DOC NUMBER	REV ECN
63	M073281 WASHER 3/8 LOCK, SPLIT, CAD PLT STL	6.00		ANSI B18.21.1	EA	80204		
64	M071513 NUT 3/8 - 16 UNC-2B GRADE 5 STL CAD PL	6.00		PER MS51967-8	EA	96906		

*** E N D O F R E P O R T ***

04/10/91 WDS231 SA-ELECTRONIC SYSTEMS GROUP SHEET: 1

CAGE:42601 P A R T S / D A T A L I S T REQUESTED BY CG

PDL: 447281 REV: - TITLE: 4.5M REFLECTOR, COMPONENT LIST

REV	ECN	RELEASE DATE	DATE EFFECTIVE	APPROVAL ENG SIG	APPROVAL Q.A. SIG
-		08-07-90	08-07-90		

04/10/91 WDS231 SA-ELECTRONIC SYSTEMS GROUP SHEET: 2

CAGE:42601 P A R T S / D A T A L I S T REQUESTED BY CG

PDL: 447281 REV: - TITLE: 4.5M REFLECTOR, COMPONENT LIST

REF DESIG	PART NUMBER/ DESCRIPTION	QUANTITY PER ASSEMBLY	VENDOR	MANUFACTURERS PART NUMBER	U/M	CAGE CODE	APPLICABLE DOC NUMBER	REV ECN
1	M284055 C/L 4.5 PANEL	4.00		284055	EA	10110	284055	
2	M284058 C/L, RIB, 4.5 GALV.	2.00		284058	EA	10110	284058	
3	M284244 P.L HUB 4.5 W/ADJUSTOR	1.00		284244	EA	10110	284244	
4	M300720 P.L STRUT 4.5M	1.00		300720	EA	10110	300720	
5	M300722 P/L BRACE 4.5M	1.00		300722	EA	10110	300722	

*** E N D O F R E P O R T ***

04/10/91 WDS231 SA-ELECTRONIC SYSTEMS GROUP SHEET: 1

CAGE:42061 P A R T S / D A T A L I S T REQUESTED BY CG

PDL: 448004 REV: A TITLE: POWER SUPPLY ASSEMBLY

REV	ECN	RELEASE DATE	DATE EFFECTIVE	APPROVAL ENG	SIG	Q.A.	SIG
-		01-15-91	01-15-91				
A		03-08-91	03-08-91				

CAGE:42061 P A R T S / D A T A L I S T REQUESTED BY CG

PDL: 448004 REV: A TITLE: POWER SUPPLY ASSEMBLY

REF DESIG	PART NUMBER/ DESCRIPTION	QUANTITY PER ASSEMBLY	VENDOR	MANUFACTURERS PART NUMBER	U/M	CAGE CODE	APPLICABLE DOC NUMBER	R E V	ECN
	M448592 SCHEMATIC, POWER SUPPLY			PER SA DWG 448592	EA	42061	448592		
TB1	M085674 BARRIER STRIP 14 TERM 6-32 SCREW	1.00		38014-6	EA	98410			
TB2	M085674 BARRIER STRIP 14 TERM 6-32 SCREW	1.00		38014-6	EA	98410			
1	M445250 POWER SUPPLY ASSY, RACK MOUNT	1.00	VEN133837	605901-105	EA				
3	M191918 BRACKET RELAY AMPLIFIER	1.00		PER SA DWG 191918	EA	10110	191918		
4	M072849 SOCKET RELAY W/RETAINER 4-POLE - LUGS	2.00		T-41112	EA	70309			
6	M072327 SCREW 4-40 X 3/8 PAN HD,SST	2.00		PER MS51957-15	EA	96906			
7	M073265 WASHER NO. 4 LOCK, EXT TOOTH, CAD PL STL	2.00		ANSI B18.21.1	EA	80204			
8	M075445 NUT HEX .112-40 UNC-28	2.00		PER MS35649-242	EA	96906			
9	M072363 SCREW 6-32 X 3/8 PAN HD,SST	2.00		PER MS51957-28	EA	96906			
10	M083578 SCREW 6-32 X 9/16 PAN HD,CAD PLT STL	8.00		PER MS35206-327	EA	96906			
11	M083264 WASHER-NO. 6- .156 .375 .049 CAD PL STL	8.00		ANSI B18.22.1	EA	96906			
12	M073269 WASHER NO. 6 LOCK, EXT TOOTH, CAD PL STL	10.00		ANSI B18.21.1	EA	80204			
13	M083445 SCREW 6-32 X 1/2 PAN HD, CAD PLT STL	10.00		PER MS35206-230	EA	96906			

*** E N D O F R E P O R T ***

Section VII
DRAWINGS

7-1 INTRODUCTION.

This section provides assembly drawing and schematic diagrams for the pedestal assembly and antenna motor controller. Table 7-1 indexes the applicable drawing in numerical sequence. Separate parts list for these drawings are presented in Section VI.

Table 7-1. Drawings Index

Drawing Number	Title	Page Number
00566	Positioning Azimuth Arms	7-3
260873	Motorized Mount Assembly - 7.0 Meter	7-4
263030	Foundation Loads	7-9
263034	Mount Structure Assembly	7-11
263196	AZ and EL Potentiometer Installation Kit	7-14
263383	Foundation Plan	7-16
282059	8841B (Domestic) Unit Assembly Schematic	7-19
337070	PWB Control Logic 8841B Schematic	7-21
339657	Elevation Actuator Assembly	7-23
339658	Azimuth Actuator Assembly	7-24
362533	8841B System Schematic	7-25
363905	Antenna Motor Control Unit 8841B-XX Top Assembly	7-26
446544	End-to-End System Family Tree	7-28
446950	End-to-End System Assembly - GE	7-29
447888	7-Meter Motorized MT Assembly Modification	7-31
448004	Power Supply Assembly	7-32

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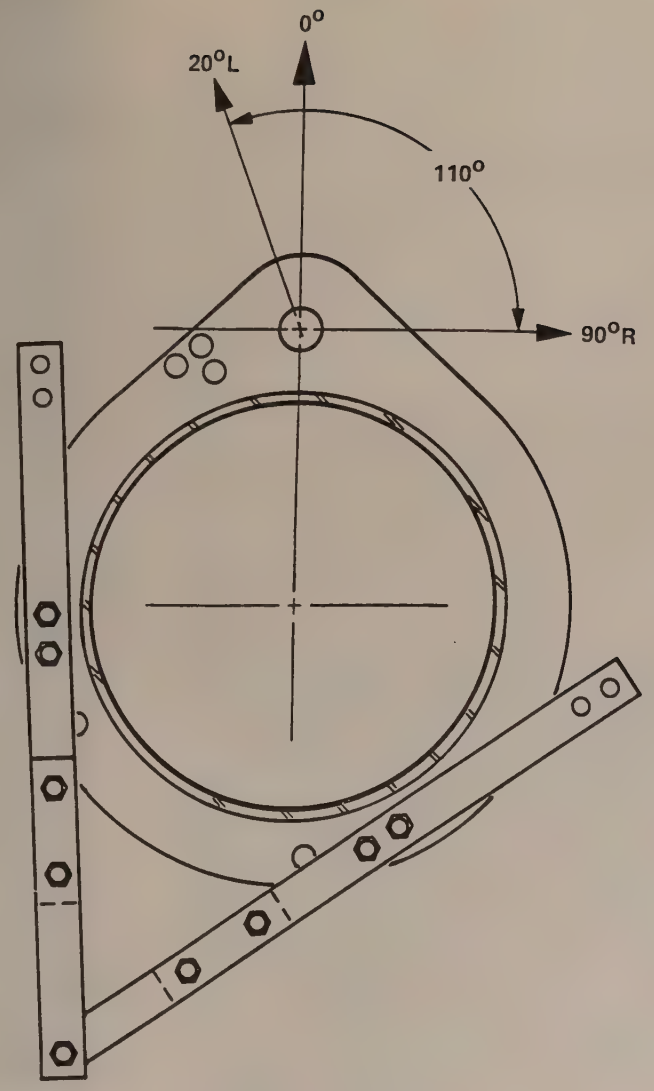
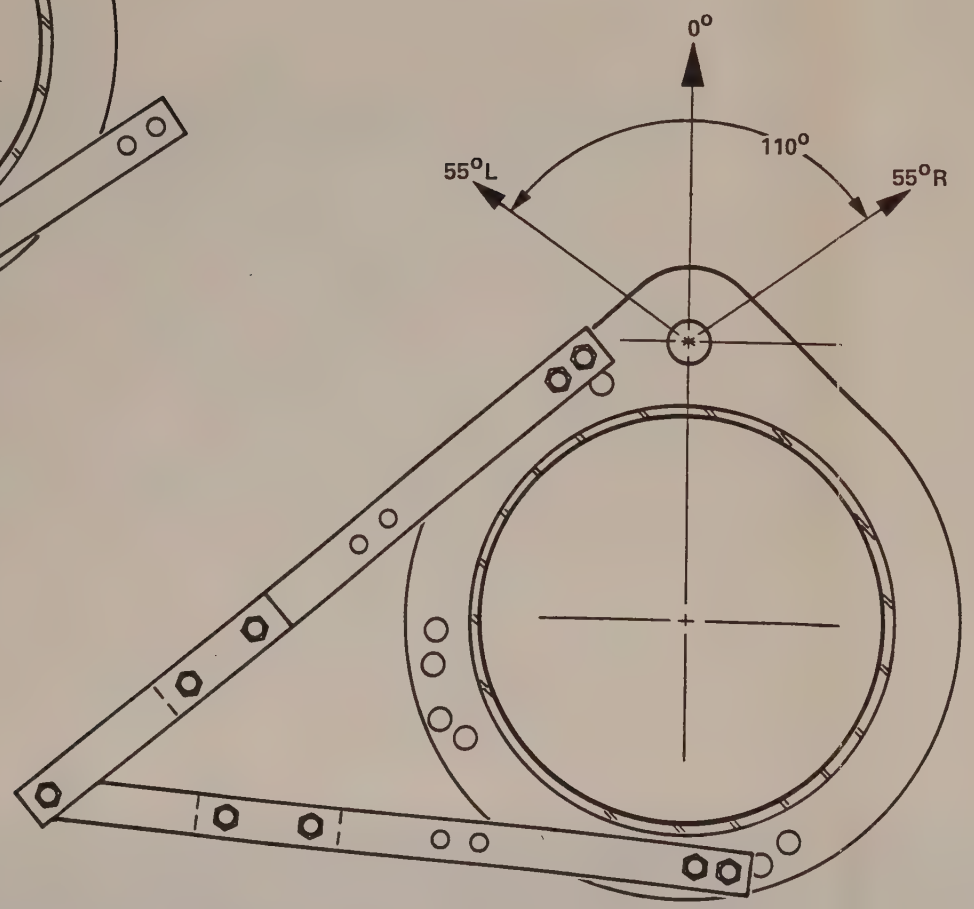
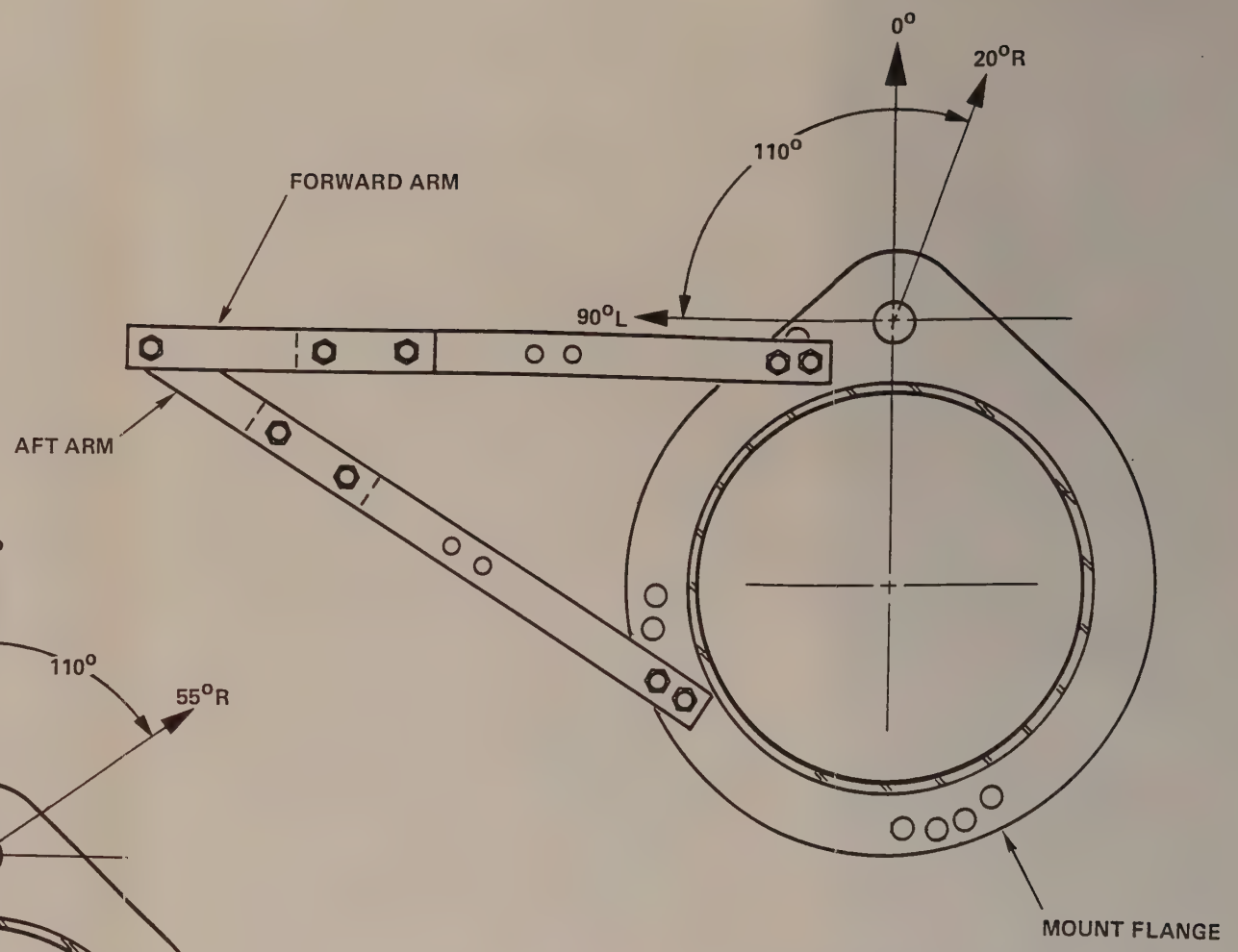


FOR AZIMUTH SECTOR
90° RIGHT TO 20° LEFT



FOR AZIMUTH SECTOR
55° LEFT TO 55° RIGHT



FOR AZIMUTH SECTOR
90° LEFT TO 20° RIGHT

00566

NOTE:

1. WITH ARMS ASSEMBLED TO THE MOUNT FLANGE AS SHOWN. FULL ACTUATOR STROKE WILL DRIVE THE MOUNT THROUGH THE 110° AZIMUTH SECTOR INDICATED
2. ALL VIEWS ARE FROM ABOVE

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219	16	337880	NUT, HEX	1-8 FLUOROCARBON COATED		
218	REF	88520	WASHER FLAT	5/8 ID STL ZN PLD		
217	REF	173853	SCR SET	1/4-20 X 1/4 STL ZN PLD		
216	REF	88711	NUT HEX	1/4-20 STL ZN PLD		
215	REF	173817	SCR HEX HD	1/4-20 X 3/4 STL ZN PLD		
214	REF	88517	NUT, HEX	5/16-18 STL ZN PLD		
213	REF	88519	WASHER, FLAT	5/16 ID STL ZN PLD		
212	REF	171038	SCR, HEX HD	5/16-18 X 3/4 STL ZN PLD		
211	7	89855	SCR, HEX HD	3/4-10 X 2 1/2 STL ZN PLD		
210	1	71505	NUT, HEX	10-24 SST		
209	1	72450	SCR, PAN HD	10-24 X 1/2 SST		
208	4	85564	PIN, COTTER	3/16 DIA X 2.0 SST		
207	6	88746	SCR, HEX HD	1.0-8 X 5.0 STL ZN PLD		
206	8	88533	NUT, HEX	1.0-8 STL ZN PLD		
205	36	88538	WASHER, FLAT	1.0 ID STL ZN PLD		
204	2	173854	SCR, HEX HD	1.0-8 X 7.0 STL ZN PLD		
203	12	88537	WASHER, FLAT	3/4 ID STL ZN PLD		
202	12	170598	SCR, HEX HD	3/4-10 X 2.0 STL ZN PLD		
201	4	88536	WASHER, FLAT	1/4 ID STL ZN PLD		
200	9	170724	SCR, HEX HD	1/4-20 X 1/2 STL ZN PLD		
101	REF	170694	LIMIT SWITCH			
100	6	171152	BEARING	1.0 ID 2.0 OD .12THK		
24	REF	364311	BRACKET (AZ)			
23	REF	364310	BRACKET (EL)			

ITEM OR FIND NO	QTY REQD	S-A STOCK NO	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO	FSCM NO

PARTS LIST

				G	SEE REV F FOR WAS CONDITION ECR W2023	
1	260870	8028			1) ITEM 205 QTY 36 WAS 20	
				H	2 ADDED ITEM 219 ECR W2058	

22	REF	263663	DRIVER		
21	REF	263193	BRACKET, MTG		
20					
19	1	260519	RETAINER, POINTER		
18	1	260485	DIAL, AZ		
17	1	260518	POINTER, AZ		
16	1	260533	PIN		
15	2	263192	ARM, AZ		
14	2	263191	ARM, AZ		
13	2	263190	ARM, AZ		
12	2	260502	SPACER, JACK ARM		
11	1	260499	BRACE, DIAG RH		
10	1	260500	BRACE, DIAG LH		
9	1	339658	ACTUATOR, AZ		
8	1	260503	BASE, ACTUATOR		
7	1	339657	ACTUATOR, EL		
6	4	260481	PIN, ACTUATOR		
5	4	260511	RETAINER, PIN		
4	1	260480	PIN, EL		
3	1	260484	DIAL, EL		
2	1	263034	MOUNT, STRUCT		
1	1	263034	MOUNT, STRUCT		

ITEM OR FIND NO	QTY REQD	S-A STOCK NO	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	FSCM NO

PARTS LIST

UNLESS OTHERWISE SPECIFIED ALL CAPACITORS ARE IN MICRO FARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C CR J K
Q R S U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ± .005
2 PLACE DECIMAL ± .02
1 PLACE DECIMAL ± 1
FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH NONE

CONTRACT NO

DSN W.Howard 4-19-82
DRAWN J. Abra 4-20-82
ENG
PROJ
APVD C Hinkley 4-20-82
APVD

Scientific-Atlanta
MOUNT ASSY, MOTORIZED 7.0 METER

SIZE D | DWG NO 10110 | 260873 H

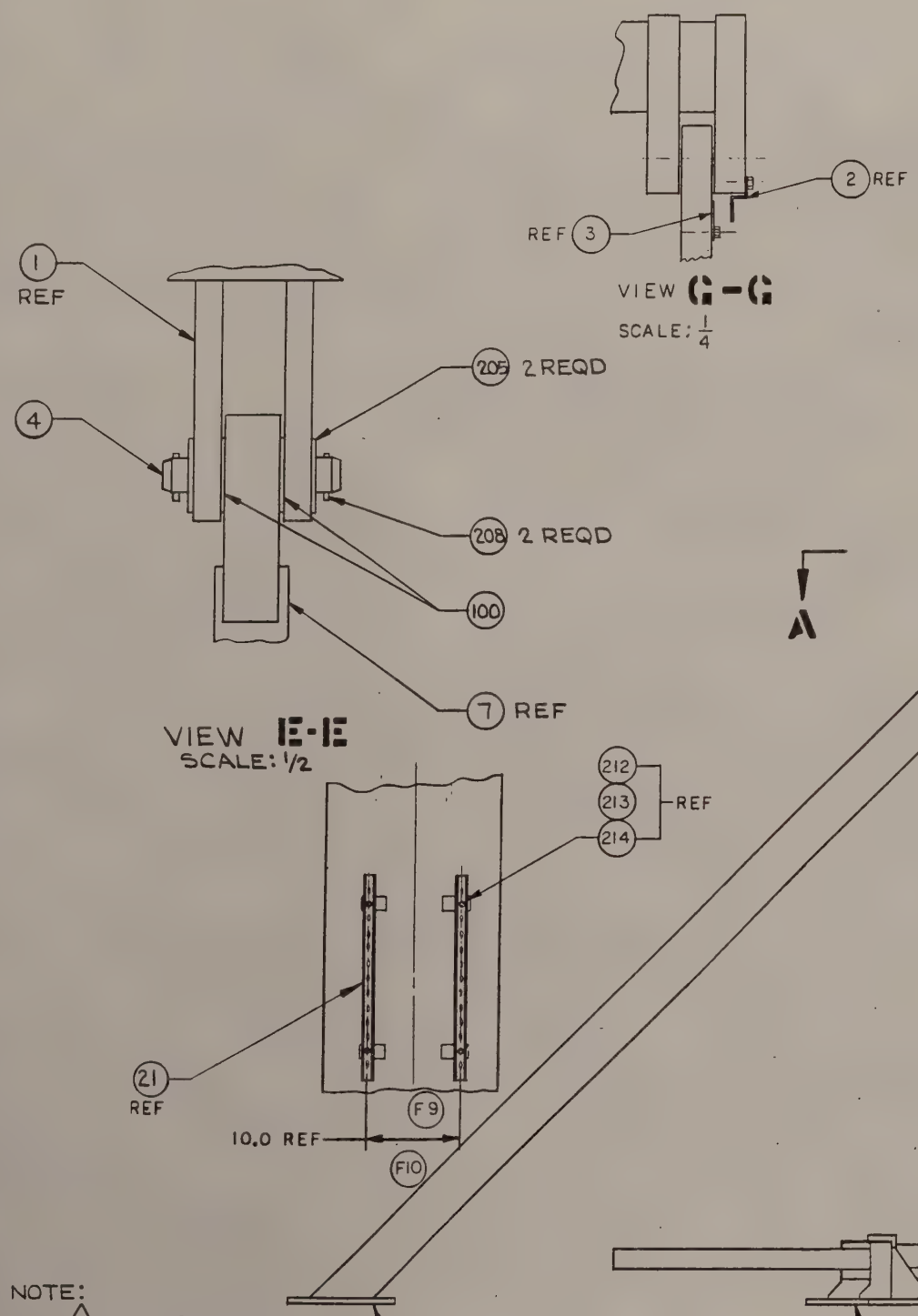
WEIGHT

SHEET 1 OF 5

2AE

55P139Z

APPLICATION			REVISIONS				
QTY REQD	NEXT ASSY	USED ON	ZONE	LTR	DESCRIPTION	DATE	APPROVED
1	260870	8028		G	SEE SH 1		
				H	SEE SH 1		



NOTE:

1. SEE SHT 3.
2. SEE SHT 3.
3. SEE SHEET 4.
4. SEE SHEET 5.

ITEM OR FIND NO.	QTY REQD	D-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	FROM DWG.

PARTS LIST

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C	CR	J	K
Q	R	S	U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES

3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1

FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125
ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .016 MAX

FINISH

CONTRACT NO.		
DWN		8-28-81
ENGR	J. Allen	11-20-81
CHK	H.Howard	11-16-81
PROD		
APVD	C Stewart 12-2-81	
APVD		

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

MOUNT ASSY, MOTORIZED 7 METER

SIZE	FSCM NO.	DWG NO.	REV
D	10110	260873	H

SCALE 1/10 SHEET 2

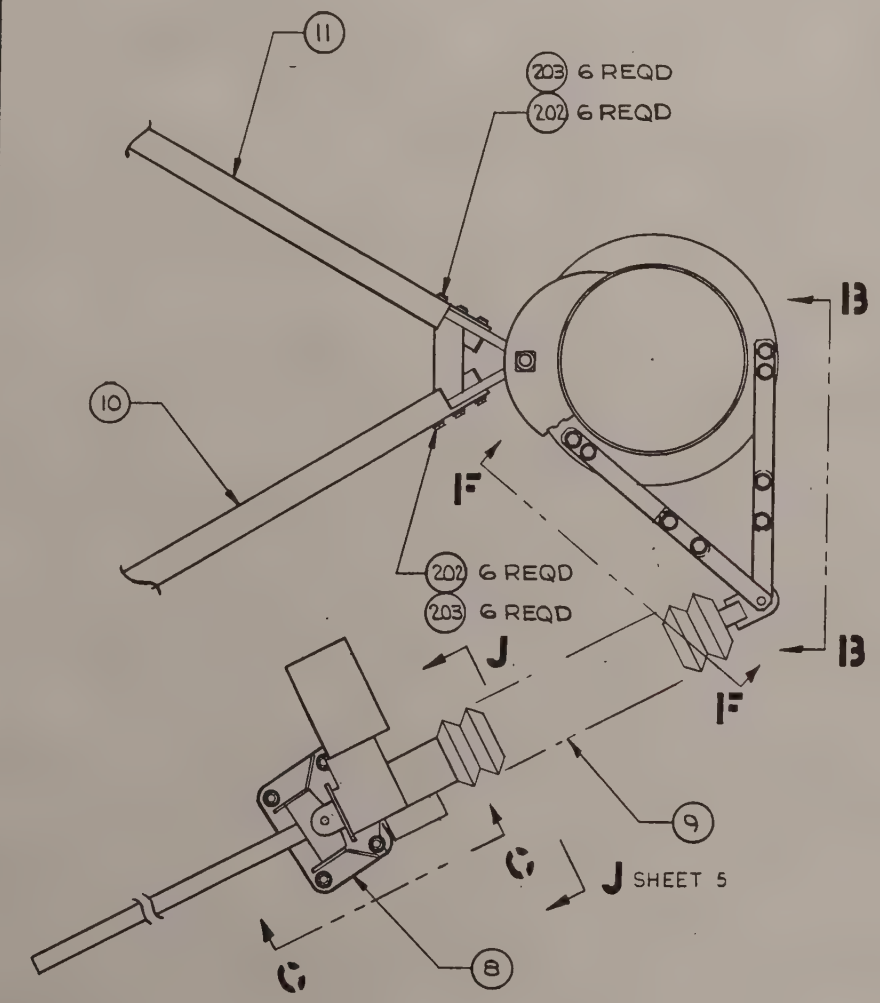
DIETZGEN CORP
8A P/N 88050

7-5

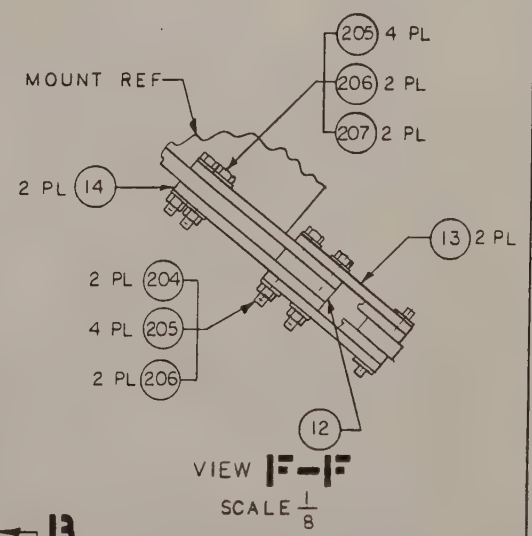
260873 [5] [H]

QTY REQD	APPLICATION NEXT ASSY	APPLICATION USED ON
1	260870	8028

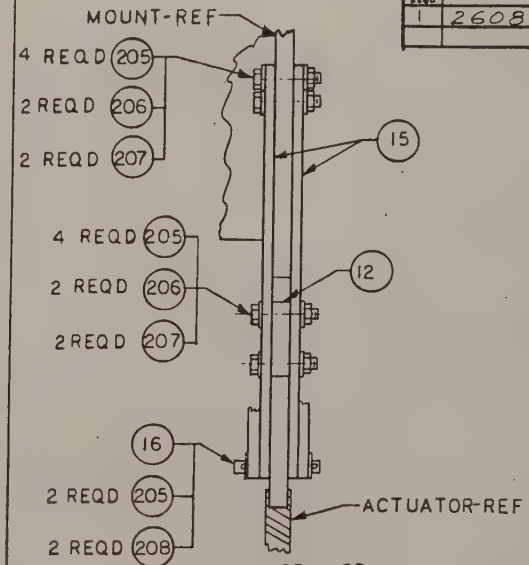
ZONE	REV	DESCRIPTION	DATE	APPROVED
	G	SEE SH 1		
	H	SEE SH 1		



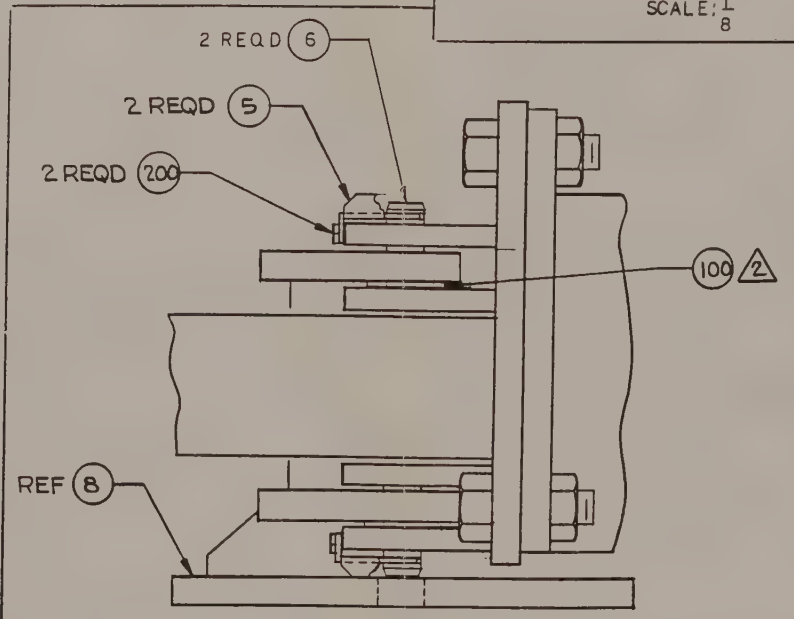
VIEW **A-A**
SCALE: 1/10



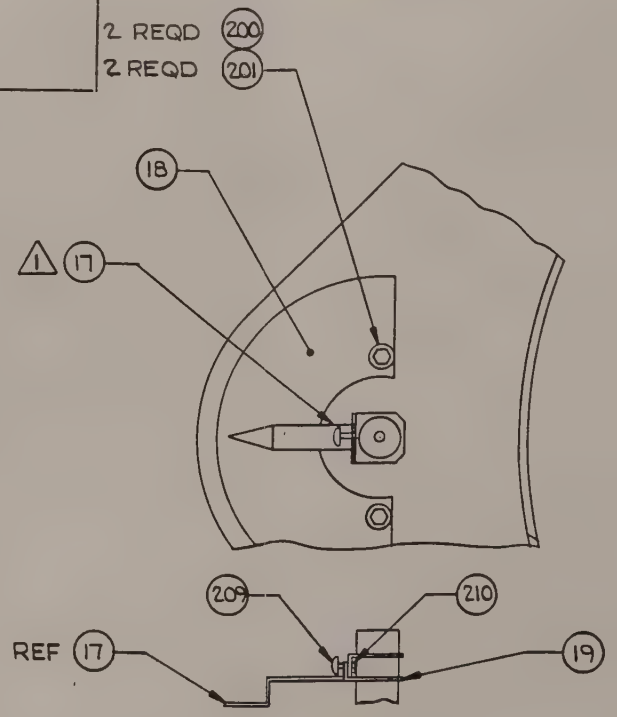
VIEW **F-F**
SCALE 1/8



VIEW **B-B**
SCALE: 1/8



VIEW **C-C**
SCALE: 1/2
TYP 2 PLACES



VIEW **D-D**
SCALE: 1/2

NOTE:
1. POINTER, ITEM 17, SHOULD BE APPROX .25 ABOVE DIAL.
2. WASHERS, ITEM 100, INSTALLED ON EITHER SIDE DEPENDING ON AVAILABLE SPACE.

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	FSCM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C	CR	J	K
Q	R	S	U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1
FRACTIONS ± ANGLES ±0° 30'
MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED
BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH

CONTRACT NO.

DSN		8/18/81
ENGR	J. Adam	11-20-81
CHK	H Howard	11-16-81
PROD		
APVD	C Edwards	11-20-81
APVD		

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

MOUNT ASSY, MOTORIZED 7 METER

SIZE	FSCM NO.	DWG NO.	REV
D	10110	260873	H

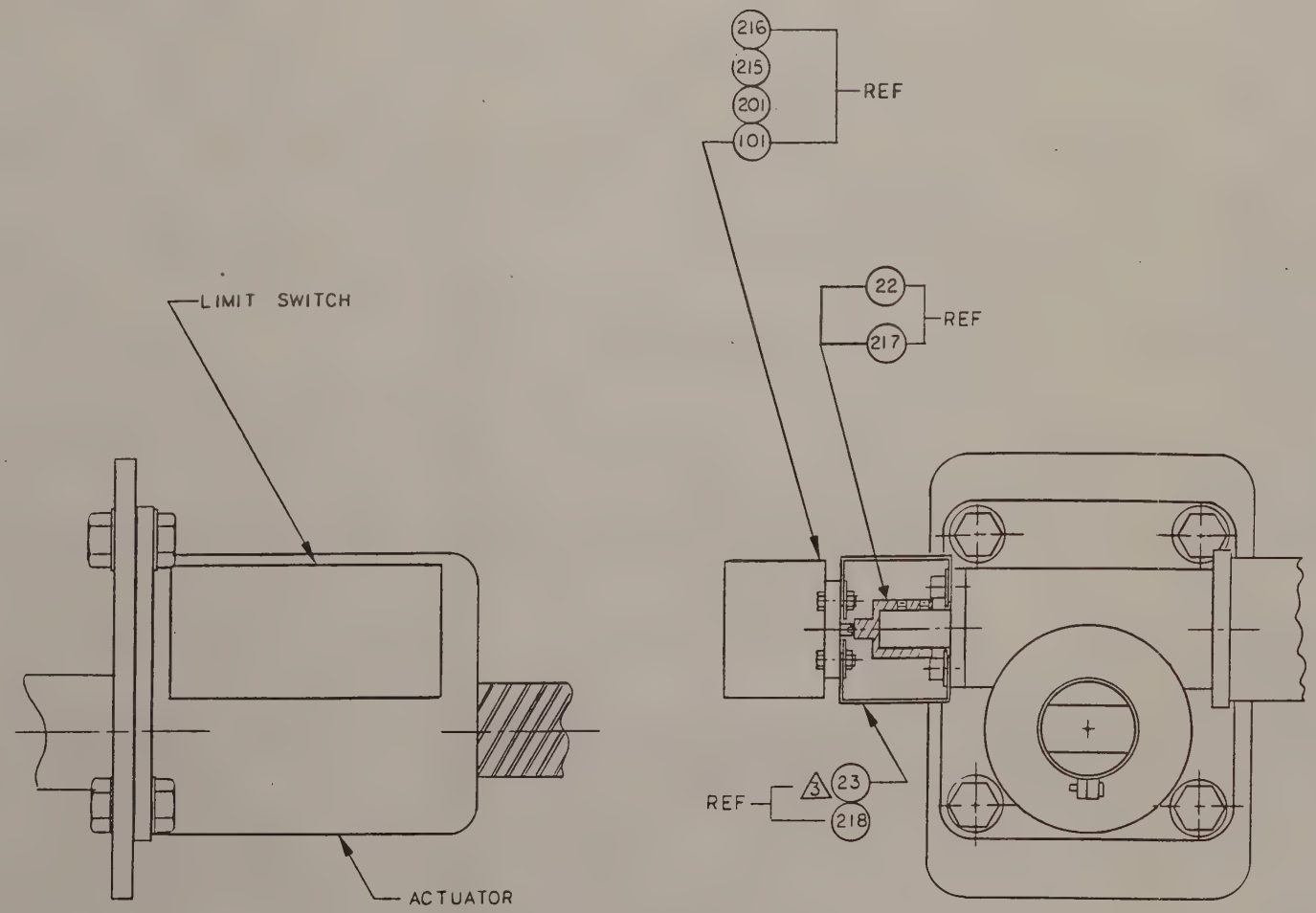
SCALE NOTED SHEET 3

DIETZGEN CORP P/N 60000

2AE

7-6

APPLICATION				REVISIONS			
QTY REQD	NEXT ASSY	USED ON	ZONE	REV	DESCRIPTION	DATE	APPROVED
1	260870	8028		G	SEE SH 1	8-20-82	T. Clancy
				H	SEE SH 1	8-20-82	T. Clancy



VIEW H-H
SCALE 1/2

NOTE
3 USE REDUCER SCREWS TO MOUNT ITEM 23. REPLACE LOCK WASHERS WITH ITEM 218. REF.

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	FROM NO

PARTS LIST

UNLESS OTHERWISE SPECIFIED, ALL CAPACITORS ARE IN MICRO-FARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C	CR	J	K
Q	R	S	U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1
FRACTIONS ± ANGLES 40' 30'

MAX SURFACE ROUGHNESS ALL MACHINED SURFACES EXCEPT AS NOTED 125

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH

CONTRACT NO.

DWN	H. Howard	8-17-82
ENGR	J. Akin	8-20-82
CHK	B. Underwood	8-17-82
PROD		
APVD	C. Brooks	8-18-82
APVD		

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

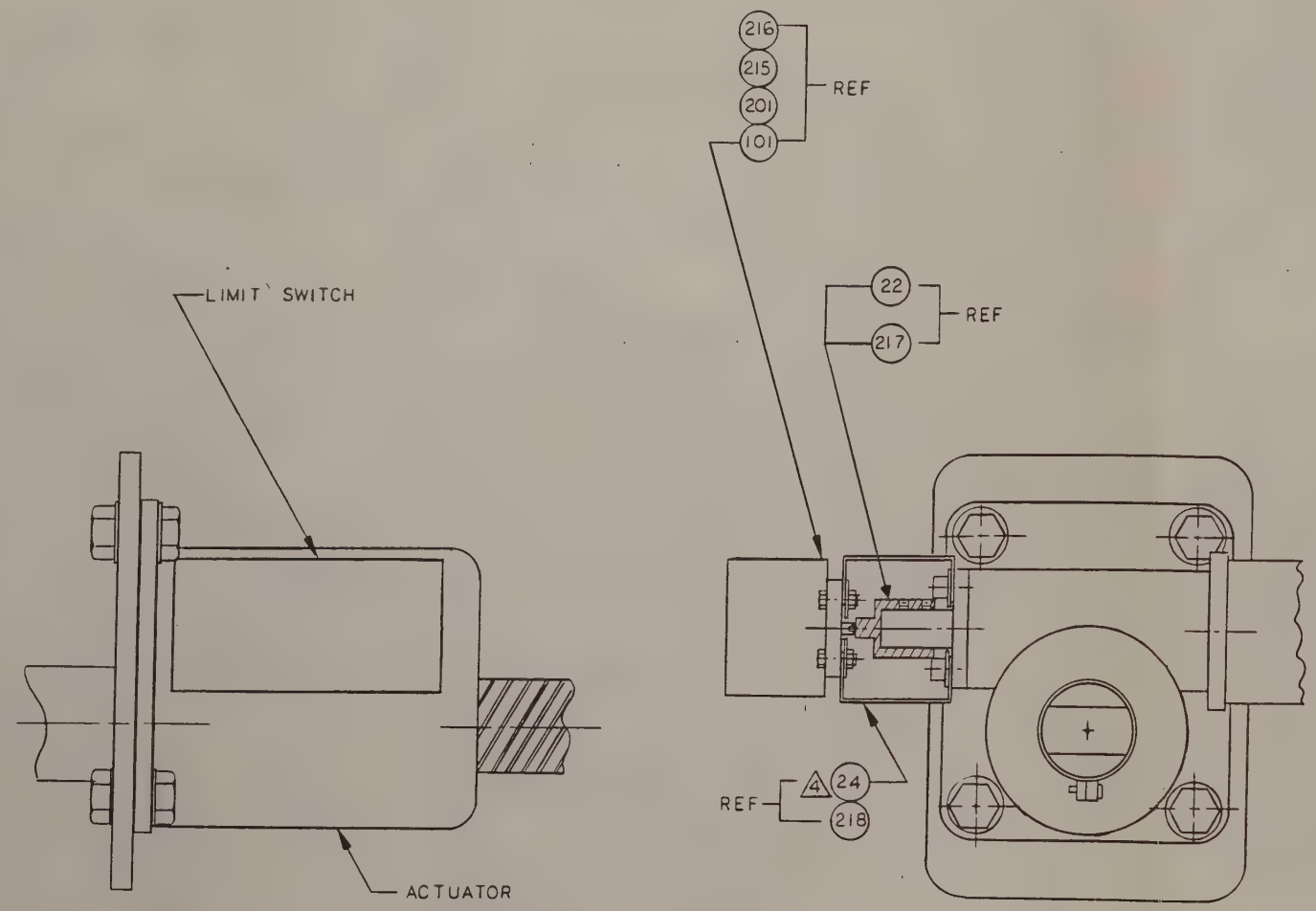
MOUNT ASSY, MOTORIZED 7.0 METER

SIZE	FSCM NO	DWG NO	REV
D	10110	260873	H

SCALE NOTED SHEET 4

7-7

APPLICATION			REVISIONS				
QTY REQD	NEXT ASSY	USED ON	ZONE	REV	DESCRIPTION	DATE	APPROVED
1	260870	8028		G	SEE SH 1		
				H	SEE SH 1		



VIEW **J - J**

SCALE 1/2

NOTE

4 USE REDUCER SCREWS TO MOUNT ITEM 24. REPLACE LOCK WASHERS WITH ITEM 218. REF.

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	FROM SHO

PARTS LIST

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICRO-FARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C	CR	J	K
Q	R	S	U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES

3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1

FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH

CONTRACT NO.

DWN	J Baker	10-21-85
ENGR	Earl D. Bragg	11/21/85
CHK	[illegible]	11/22/85
PROD		
APVD		
APVD		

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

MOUNT ASSY, MOTORIZED 7.0 METER

SIZE	FSCM NO.	DWG NO.	REV
D	10110	260873	H

SCALE NOTED SHEET 5

DIETZGEN CORP

S-A P/N 58029

APPLICATION			REVISIONS				
QTY REQD	NEXT ASSY	USED ON	ZONE	REV	DESCRIPTION	DATE	APPROVED
		8010-A		A	(1) 3.38 WAS 4.0 (2) 17.1 WAS 16.5 (3) ADDED NOTE 3 DCN 3143, ECR 3206-816 Ray Jones 4-8-83	V Hooms 4-8-83	K Perrin 4-8-83
		8010C/KU		B	TITLE WAS: FOUNDATION LOADS MODEL 8010A 7.0M EARTH STATION DCN SN 3270 ECR 3558/940	V Hooms 5-6-83	9-7-83
				C	ADDED USED ON & CHG TITLE PER ECR 7840	1/24/90	

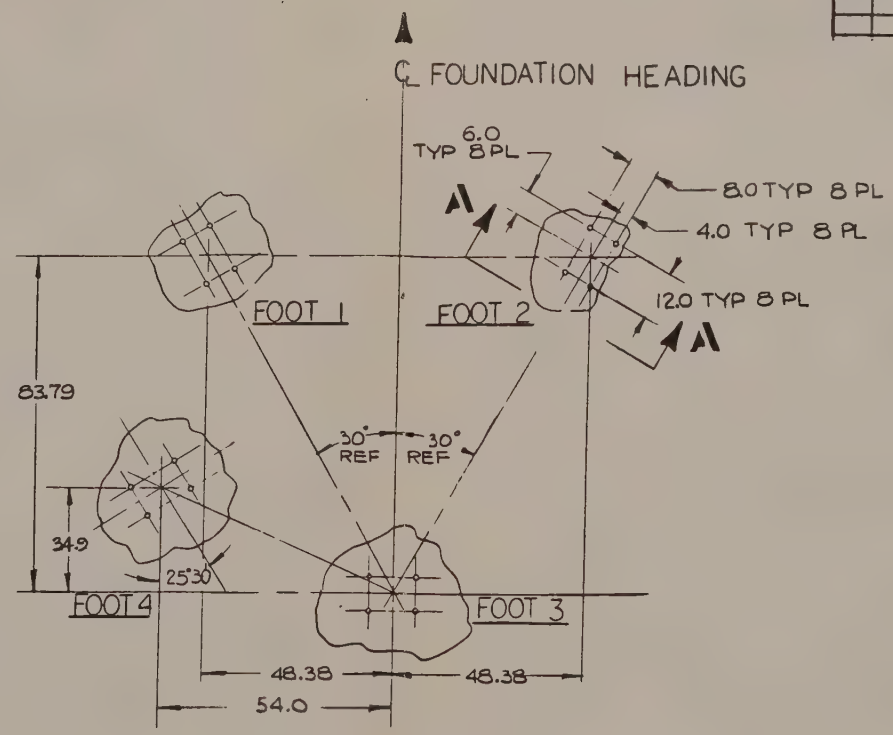
IMPORTANT NOTICE

SINCE SOIL CONDITIONS, BUILDING CODES AND OTHER FACTORS VARY AMONG DIFFERENT LOCALITIES, THOSE INSTALLING ANTENNA MOUNTS ARE CAUTIONED TO SECURE PROFESSIONAL ENGINEERING SERVICES FOR THE DESIGN AND CONSTRUCTION SUPERVISION OF ANTENNA MOUNT FOUNDATIONS.

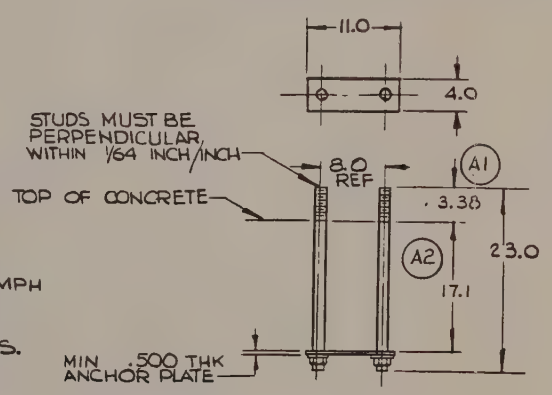
THIS ANTENNA MOUNT STUD ORIENTATION AND WORST CASE LOADING TABLE IS FURNISHED TO BE USED TO ESTABLISH REQUIRED DIMENSIONS AND LOCATIONS OF STUDS RELATIVE TO EACH OTHER AND AS A GUIDE TO ANTENNA MOUNT CHARACTERISTICS THAT MUST BE CONSIDERED IN THE PROFESSIONAL DESIGN OF A FOUNDATION.

SCIENTIFIC-ATLANTA, INC. DOES NOT REPRESENT OR WARRANT THAT ANY PARTICULAR DESIGN OR SIZE OF FOUNDATION IS APPROPRIATE FOR ANY PARTICULAR LOCALITY OR INSTALLATION.

SCIENTIFIC-ATLANTA



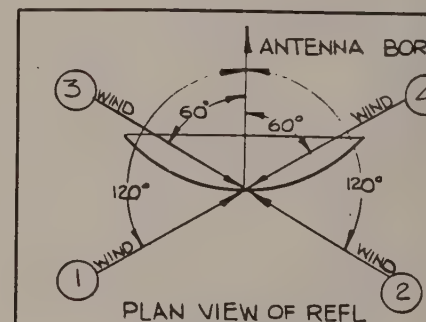
ANCHOR BOLT LOCATIONS



VIEW **A-A**
TYP 8 PL

NOTE

1. TOTAL STIFFNESS OF FOUNDATION AND SOIL TOGETHER MUST BE SUCH AS TO GIVE A MAXIMUM OF 0.15° TILT OF THE FOUNDATION ANCHORS IN A 125 MPH WIND.
2. DO NOT WELD ANCHOR BOLTS TO REINFORCING BARS. DO NOT HIT OR TRY TO BEND ANCHOR BOLT.
3. ANTENNA FEET SHALL BE LEVEL WITHIN $\frac{1}{4}$ INCH.



PLAN VIEW OF REFL

THE WIND DIRECTON IS ALWAYS ASSUMED TO BE PARALLEL TO THE GROUND.
THE ANTENNA IS AT 0° ELEVATION.
WIND LOADCASES ARE AS FOLLOWS:

1. 125 MPH WIND FROM 120° LEFT OF BORESIGHT
2. 125 MPH WIND FROM 120° RIGHT OF BORESIGHT
3. 125 MPH WIND FROM 60° LEFT OF BORESIGHT
4. 125 MPH WIND FROM 60° RIGHT OF BORESIGHT

WIND LOAD CASES

ITEM OR FIND NO	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	FROM NO

PARTS LIST

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C	CR	J	K
Q	R	S	U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
2 PLACE DECIMAL ± .005
3 PLACE DECIMAL ± .03
1 PLACE DECIMAL ± .1
FRACTIONS ± ANGLES ±0° 30'
MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH

CONTRACT NO.

DWN	S Becker	10/8/81
ENGR	R. Perrin	10/19/81
CHK	R. Perrin	10/19/81
PROD	B	
APVD		
APVD		

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

FOUNDATION LOADS
MODEL 8010-A, C & C/KU
7.0 M EARTH STATION ANT

SIZE	FSCM NO.	DWG NO.	REV
D	10110	263030	C

SCALE NONE SHEET 1 OF 2

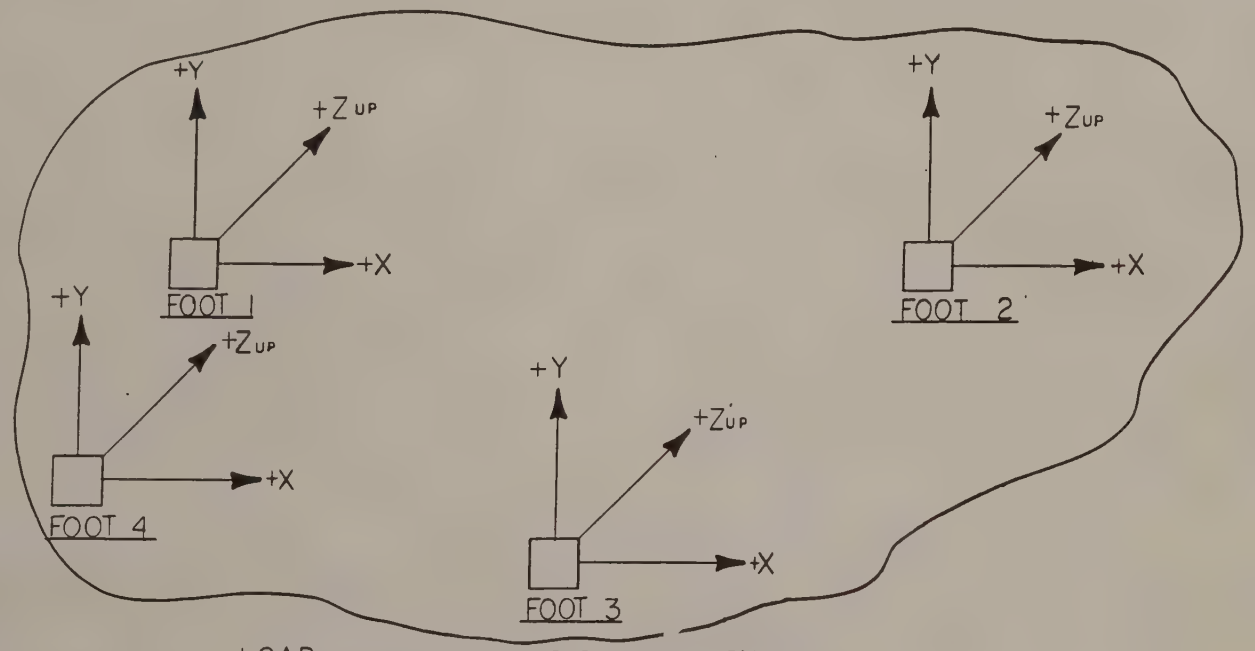
DIETZGEN CORP
8A P/N 80006

7-9

APPLICATION		
QTY REQD	NEXT ASSY	USED ON
		8010-A
		8010C/KU

263030 [2] [C]

REVISIONS				
SYMB	REV	DESCRIPTION	DATE	APPROVED
	A	SEE SHEET 1. Ray Jones 4-8-83	V Haas 4-6-83	R Perrin 4-8-83
	B	SEE SH 1 J Baker	V Haas 9-6-83	Hayter 9.7.83
	C	SEE SHEET 1	10/27/83	



LOAD DIRECTIONAL SIGN CONVENTION

LOAD CASE	ANTENNA ORIENTATION	FOOT 1 FX	FOOT 1 FY	FOOT 1 FZ	FOOT 2 FX	FOOT 2 FY	FOOT 2 FZ	FOOT 3 FX	FOOT 3 FY	FOOT 3 FZ	FOOT 4 FX	FOOT 4 FY	FOOT 4 FZ
1	77.5° Right	3547	-6007	7045	330	582	-683	25963	-23575	-6362	-25934	25999	0
2	of Foundation	-1266	2143	-2514	2860	5042	-5914	-25255	23172	8428	25923	-25989	0
3	Heading	-11165	18907	-22173	-13418	-23660	27746	-17162	15527	-5572	15042	-15079	0
4		-8880	15039	-17636	-14612	-25765	30214	12368	-11592	-12577	-14895	14933	0
1	57.5° Right	2675	-4525	5326	1555	2724	-3208	25444	-25297	-2118	-24976	25613	0
2	of Foundation	-1519	2569	-3024	1997	3496	-4117	-24796	24400	-7142	24951	-25587	0
3	Heading	-5991	10131	-11927	-15514	-27169	31985	-16667	18781	-20057	14551	-14921	0
4		-4165	7044	-8292	-15704	-27503	32377	12213	-10014	-24084	-14270	14634	0
1	30° Right	1821	-3089	3651	2417	4187	-4949	8711	-18382	1297	-8097	18137	0
2	of Foundation	-2401	4074	-4815	943	1633	-1930	-8324	17034	6746	8090	-18121	0
3	Heading	1637	-2781	3287	-15078	-26116	30866	-6142	16861	-34153	4713	-10558	0
4		3461	-5872	6940	-14450	-25029	29580	3483	-3639	-36521	-4628	10368	0
1	0° (Along	520	-890	1053	2767	4735	-5605	9627	-19278	4552	-9141	18599	0
2	Foundation	-2808	4806	-5689	-478	-819	970	-9629	17771	4719	9143	-18604	0
3	Heading)	9333	-15971	18905	-10749	-18395	21774	-5436	18097	-40680	5276	-10735	0
4		10775	-18439	21827	-9358	-16014	18956	5435	-3283	-40783	-5276	10735	0
1	30° Left	-878	1521	-1799	2400	4074	-4815	14813	-21996	6614	-14649	21028	0
2	of Foundation	-2482	4298	-5081	-1820	-3089	3651	-15215	20695	1429	14670	-21059	0
3	Heading	14411	-24961	29500	-3459	-5871	6939	-7200	18694	-36440	8383	-12035	0
4		15118	-26186	30948	-1639	-2781	3287	9925	-5883	-34236	-8537	12255	0
1	57.5° Left	-1949	3414	-4020	1542	2606	-3069	25576	-27107	7089	-25811	25969	0
2	of Foundation	-1603	2807	-3305	-2698	-4562	5371	-26237	26276	-2066	25851	-26009	0
3	Heading	15674	-27450	32316	4152	7021	-8266	-12664	19446	-24049	14766	-14856	0
4		15544	-27222	32047	6005	10155	-11955	17127	-11259	-20091	-15056	15148	0
1	77.5° Left	-2772	4888	-5733	1143	1936	-2271	25372	-28483	-8004	-26015	26029	0
2	of Foundation	-417	735	-863	-3424	-5801	6803	-26095	28115	-5939	26040	-26053	0
3	Heading	14559	-25671	30106	8948	15155	-17772	-12440	18092	-12333	14952	-14960	0
4		13471	-23752	27855	11096	18790	-22036	17236	-14449	-5819	-15100	15107	0

125 MPH WIND LOADS

THE DEADWEIGHT OF THE ANTENNA IS 4500 LBS AND ACTS IN THE -Z DIRECTION AT FOOT 3

7.0 METER FOUNDATION LOADS
(125MPH WIND & DEADWEIGHT..)
ALL LOADS IN LBS

PARTS LIST

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	FSCM NO.

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT
LAST REFERENCE DESIGNATION USED
C CR J K
Q R S U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED
TOLERANCES
3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1
FRACTIONS ± ANGLES ±0° 30'
MAX SURFACE ROUGHNESS 125
ALL MACHINED SURFACES EXCEPT AS NOTED
BREAK SHARP EDGES AND CORNERS .010 MAX
FINISH

CONTRACT NO.
DWN S Baker 10/12/81
ENGR R. Perrin 10/19/81
CHK R. Perrin 10/19/81
PROG
APVD
APVD

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

FOUNDATION LOADS
MODEL 8010-A, C & C/KU
7.0M EARTH STATION ANT

SIZE D | FSCM NO. 10110 | DWG NO. 263030 | REV C
SCALE NONE | SHEET 2

SA P/N 58036

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	H	1) ITEM 24: 85845 WAS 85564 2) REMOVED: ITEM 25-173827 ITEM 26-88517 ITEM 27-88519 3) SEE SH 3. ECR W1672 J Howell VKloves	4/11/86	Earl D. Bragg
	J	SEE SH 2. ECR 6597 G Hulse 9-19-88	10/19/88	RDHowell
	K	SEE SH 2. ECR 6646 G Hulse 9-26-88	10/19/88	RDHowell

NOTE:

1. THRU 3 SEE SHEET 3.
4. SEE SH 2.
5. SEE SH 3.
6. SEE SH 2.
7. SEE SH 2.
8. SEE SH 3.

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO	FSCM NO.
28	1	87580	ADHESIVE			
27						
26						
25						
24	4	85845	PIN, COTTER	3/16 X 1 3/4		
23	4	88538	WASHER, FLAT	1.06 X 2 X .134		

PARTS LIST

APPLICATION		
QTY REQD	NEXT ASSY	USED ON
1	260874	8028
1	260873	8028

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	ITEM 20 WAS 72650 ECR 601/2736 DCN 2909 ADDED LM TO DWG	10-19-82	
	B	1) ADDED ITEM 5 2) ADDED ITEM 11 SEE SH 2,3 DCN 3008 ECR 697-2842	11-19-82	D. Klein
	C	FINISH 611033 WAS NONE ECR 4086 FILE NO. 1153 Bob	3-28 EC	RDHowell
	D	ITEM 16, 171199 WAS 171175 ECR 4303 FILE NO. 1218 Bob	VKloves 4-17-84	RDHowell 4-17-84
	E	(1) REMOVED ITEM 8, 260534, QTY 1 (2) ITEM 6, 260480, QTY 2 WAS 1 (3) ITEM 23, 73296, QTY 4 WAS 2 (4) ITEM 24, 85564, QTY 4 WAS 2 SEE SHEET 3 ECR 4782, FILE NO. 1315 Ray Jones 11/5/84	VKloves 11-8-84	Earl D. Bragg
	F	1) ITEM 20, P/N 88515 WAS 72651 2) ITEM 21, P/N 88521 WAS 73286 3) ITEM 23, P/N 88538 WAS 73296 4) ITEM 25, P/N 173827 WAS 72548 5) ITEM 26, P/N 88517 WAS 71511 6) ITEM 27, P/N 88519 WAS 73280 7) ADDED NOTE 6 AND 7 ECR 5083 5/2/85 VKloves FILE NO. 1395	5/16/85	Earl D. Bragg
	G	ITEM 5 WAS 211634, QTY 1 ECR W1524 VKloves 11/21/85 Bob	11/21/85	Earl D. Bragg

ITEM OR FIND NO	QTY REQD	S-A STOCK NO	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO	FSCM NO
22	4	71480	LOCKNUT			
21	8	88521	WASHER, FLAT	1/2 ID		
20	8	88515	SCR, HEX HD	1/2-13 X 1 1/2		
19						
18						
17						
16	1.4FT	171199	GROMMET			
15	2	171152	BEARING	1.0 X 2 X .12		
14	2	171155	BEARING	1.0 X 1.31 X 1.5		
13	2	171156	BEARING	2 X 3.18 X 1.75		
12						
11	2	268316	SPACER			
10	1	260504	SPACER, BRG			
9	2	260482	CAP BEARING			
8						
7						
6	2	260480	PIN, EL			
5	1	217169	SERIAL NO. LABEL			
4	1	260496	FITTING, DIAG			
3	1	260491	BASE BRG			
2	1	260483	FRAME, EL			
1	1	263032	MOUNT			

PARTS LIST

UNLESS OTHERWISE SPECIFIED ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C CR J K
Q R S U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
2 PLACE DECIMAL ± .005
3 PLACE DECIMAL ± .02
1 PLACE DECIMAL ± 1
FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH 611033 4 7

CONTRACT NO

DWN H Howard 10-15-82
ENGR D. Klein 10-28-82
CHK R Hammond 10-29-82
PROD
APVD C Hoffman 10-29-82
APVD

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

MOUNT STRUCTURE ASSY 7.0 METER

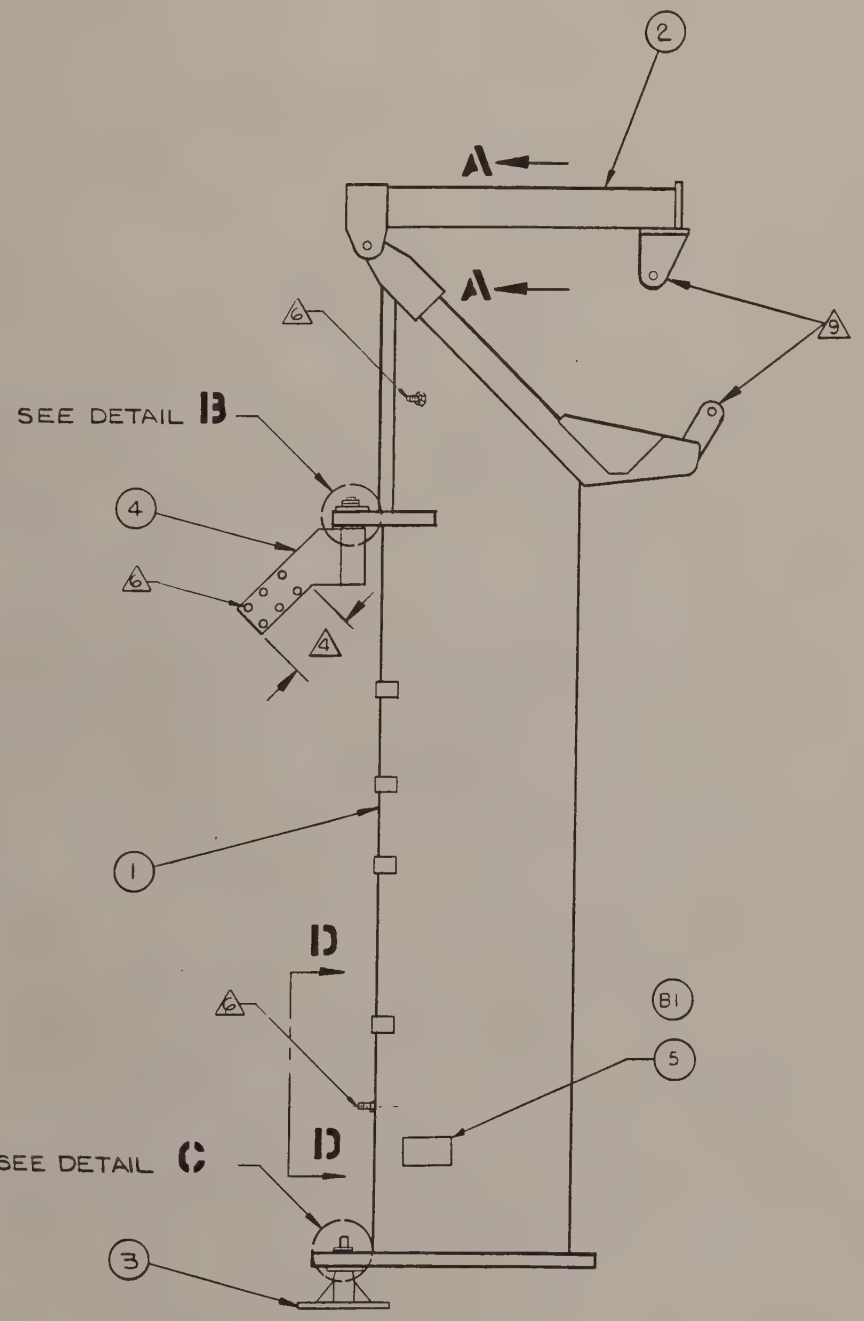
SIZE	FSCM NO	DWG NO	REV
D	10110	263034	K

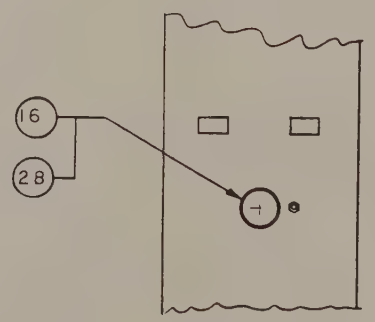
SCALE | SHEET 1 OF 3

7-11

APPLICATION		
QTY REQD	NEXT ASSY	USED ON
1	260874	8028
1	260873	8028

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	SEE SHT 1	10-19-82	
	B	1)ADDED ITEM 5 SEE SH 1,3	11-17-82	
	C	SEE SH 1 ADDED NOTE 4	3-28-84	
	D	SEE SH 1	4-17-84	
	E	SEE SH 3 Ray Jones 11/5/84	11-8-84	
	F	(2)ADDED NOTE 5 AND 7 SEE SH.1	5/6/85	
	G	SEE SH 1	11/22/85	
	H	SEE SH 1 AND SH 3	4/11/86	
	J	ADDED TO NOTE 6 AND HOLES INDICATED, 2 PLCS ECR 6597	10/15/88	
	K	ADDED NOTE 9 ECR 6646	10/19/88	





NOTES:

4. DO NOT PAINT THIS SURFACE.
6. CLEAN AND APPLY GREASE TO $\frac{3}{4}$-10 UNC-2B HOLES IN DIAGONAL FITTING, ITEM 4, $\frac{1}{2}$-13 UNC-2A STUDS ON MOUNT, ITEM 1, 2 PLACES, AND HOLES INDICATED, 2 PLACES.
7. FINISH APPEARANCE PER SPEC 622617, CLASS D.
9. USING CHECKING FIXTURE 284053, INSPECT PIN ALIGNMENT AND FIXTURE CLEARANCE.

ITEM OR FIND NO.	QTY REQD	A-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC & PC SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	PROD SRC

PARTS LIST

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICRO-FARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C CR J K
Q R S U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1
FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125
ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH 611033 4 7

CONTRACT NO.

DWR K. Anderson 7-28-81
ENGR J. Akin 11-20-81
CHK M. Howe 8-27-81
PROD
APVD C. Pinelou 11-20-81
APVD

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

MOUNT STRUCTURE ASSY 7 METER

SIZE D | FSCM NO. 10110 | DWG NO 263034 | REV K

SCALE 1/10 | SHEET 2 OF 3

AE

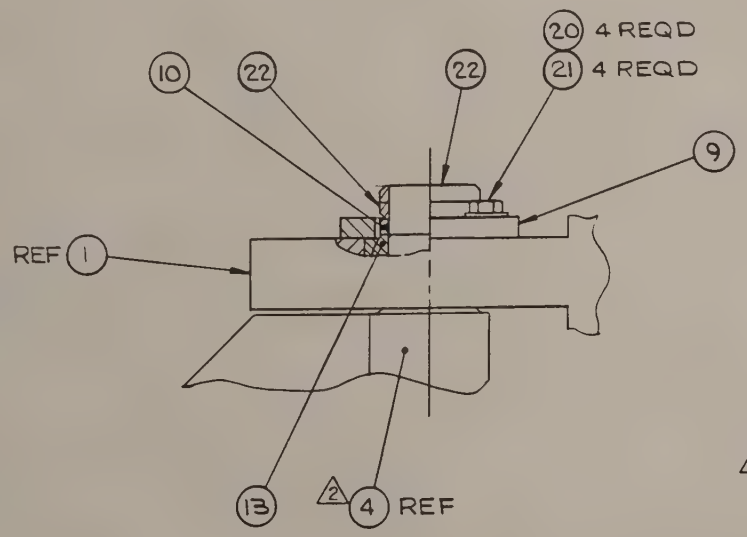
DIETZGEN CORP

7-12

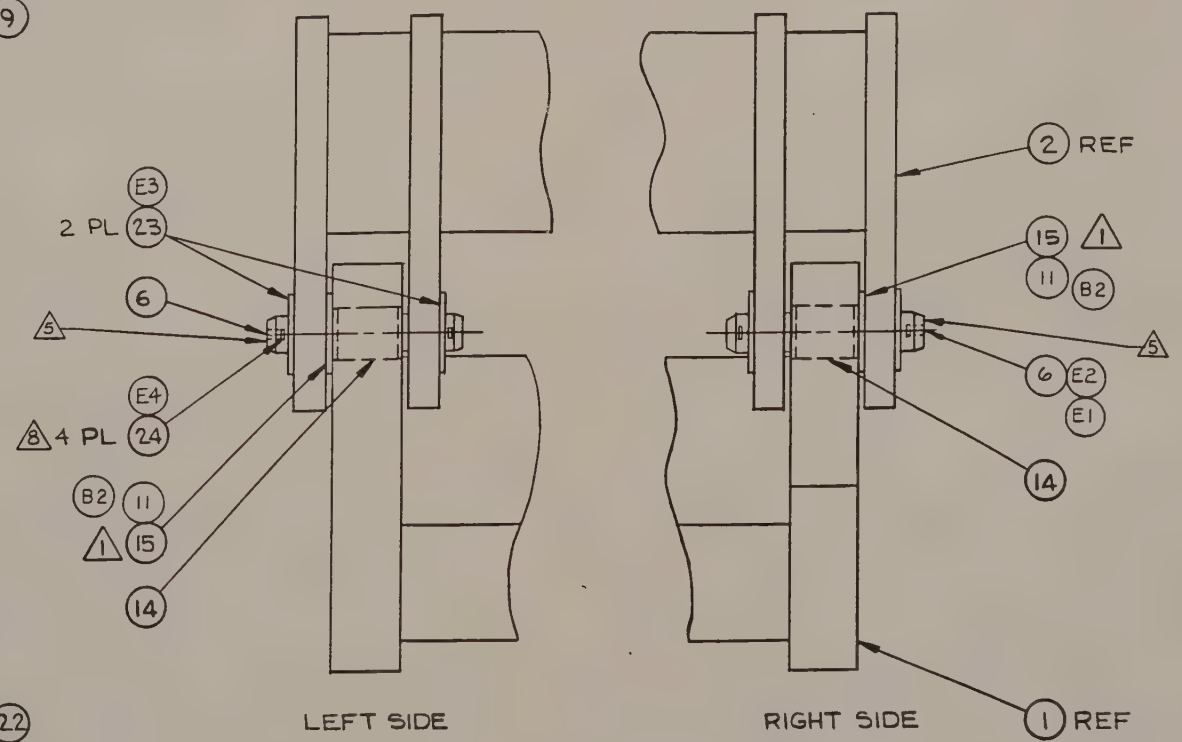
55P139Z

APPLICATION		
QTY REQD	NEXT ASSY	USED ON
1	260874	8028
1	260873	8028

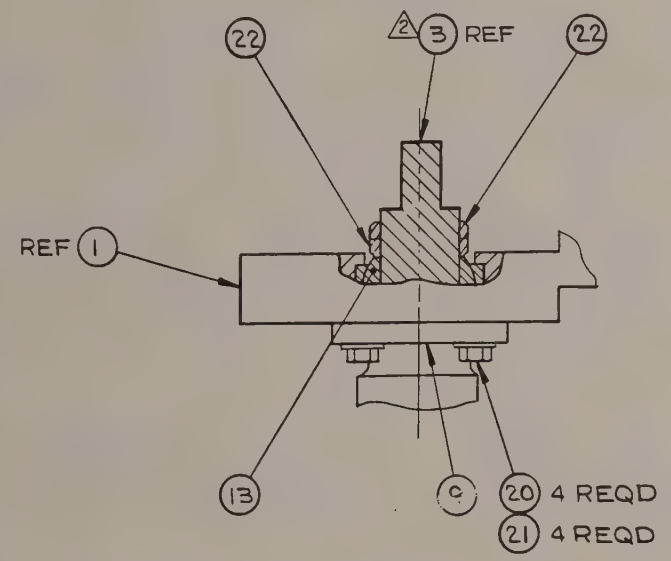
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	SEE SHT 1	[illegible]	[illegible]
	B	2)ADDED ITEM 11 3)CHANGED NOTE 1-WAS-"MAY BE NECESSARY TO INSTALL ITEM 15 ON OPPOSITE SIDE OF ITEM 1." SEE SH 1,2	[illegible]	[illegible]
	C	SEE SH 1	5-28-83	[illegible]
	D	SEE SH 1	[illegible] 4-17-84	[illegible] 4-17-84
	E	(5) ADDED NOTE 5 SEE SHEET 1. Ray Jones 11/3/84	[illegible] 11-[illegible]-84	[illegible]
	F	SEE SHEET 1.	5/1/85	[illegible]
	G	SEE SH 1	[illegible]	[illegible]
	H	3) ADDED: NOTE 8 SEE SH 1	4/11/86	[illegible]
	J	SEE SHT 2. ECR 6597	10/1/87	[illegible]
	K	SEE SHT 2. ECR 6646	1-11-89	[illegible]



DETAIL B
SCALE: 1/2



VIEW A-A
SCALE: 1/2



DETAIL C
SCALE: 1/2

NOTES:

(B3) 1. USE ITEM 11 AND 15 AS REQUIRED TO ELEMINATE SIDE CLEARANCE. ALL SPACERS MUST BE IN OUTSIDE LOCATION AS SHOWN OR INSIDE OF ITEM 1.

2. APPLY ZINC CHROMATE PRIMER TO BEARING SURFACE AND THREADS. ASSEMBLE WHILE PRIMER IS WET.

3. - DO NOT APPLY GREASE TO BEARINGS

5. HOLE IN END OF PIN MUST BE TO THE OUTSIDE.

8. COTTER PIN, ITEM 24, CAN NOT EXTEND PAST THE OUTSIDE DIAMETER OF WASHER, ITEM 23.

PARTS LIST

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO	Fig. & Item No.

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C CR J K
Q R S U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1
FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH 611033 A/T

CONTRACT NO.

DWN	[illegible]	7-28-81
ENGR	J. Allen	11-20-81
CHK	[illegible]	8-27-81
PROD		
APVD	[illegible]	11-20-81
APVD		

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

MOUNT STRUCTURE ASSY 7 METER

SIZE D | FSCM NO. 10110 | DWG NO 263034 | REV K

SCALE | SHEET 3 OF 3

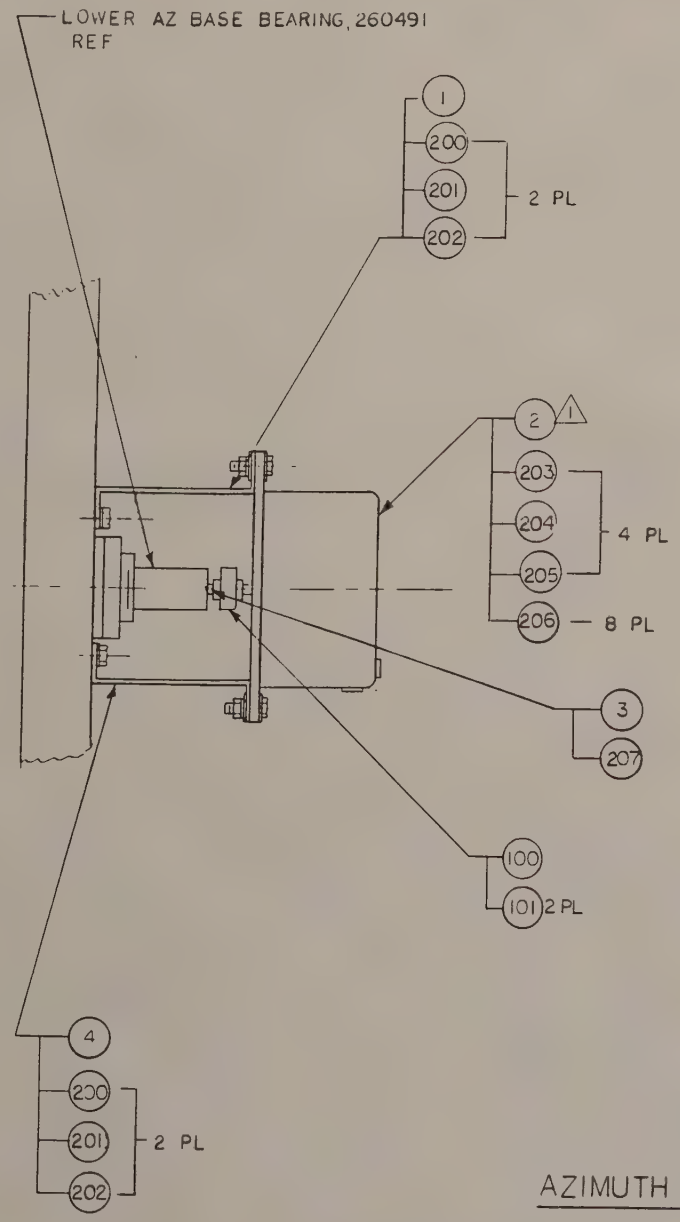
AE

DIETZGEN CORP

7-13

55P139Z

APPLICATION			REVISIONS				
QTY REQD	NEXT ASSY	USED ON	ZONE	REV	DESCRIPTION	DATE	APPROVED
1		8840		A	1) ITEM 3, 260517, QTY 1 WAS QTY 2 2) ADDED ITEM 7, 263686 3) ITEM 101, 172173 QTY 4 WAS QTY 2 4) ITEM 200, 72488 QTY 7 WAS QTY 6 5) ITEM 201, 73278 QTY 7 WAS QTY 6 6) ITEM 202, 73277 QTY 7 WAS QTY 6 7) ITEM 207, 72480 QTY 1 WAS QTY 2 DCN S/N 2755 ECR 2346/442 Fisher		
				B	ITEM 6, 268444 WAS 260515 ECR 3127/797 DCN 3127 HLH		
				C	REMOVED PARTS LIST FROM DWG ECR 5933	8-27-86	D. Wade
				D	ITEM 7 WAS 263686 ECR 6920 H.L. Howard		



AZIMUTH INSTL

SEE SEPARATE PARTS LIST

NOTE:

1. REMOVE TWO SET SCREWS IN LINE WITH SHAFT FOR DRAINAGE.
2. SEE SHEET 2.

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFICATION OR PART NO.	FSCM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C CR J K
Q R S U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1
FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH NONE

CONTRACT NO.

DWN	H.Howard	11-17-81
ENGR	J. Akin	2-29-82
CHK	R.L. Lumsden	3-12-82
PROD		
APVD	C Ettrington	4-20-82
APVD		

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

AZ AND EL POT INSTL 7 METER-MODEL 8840

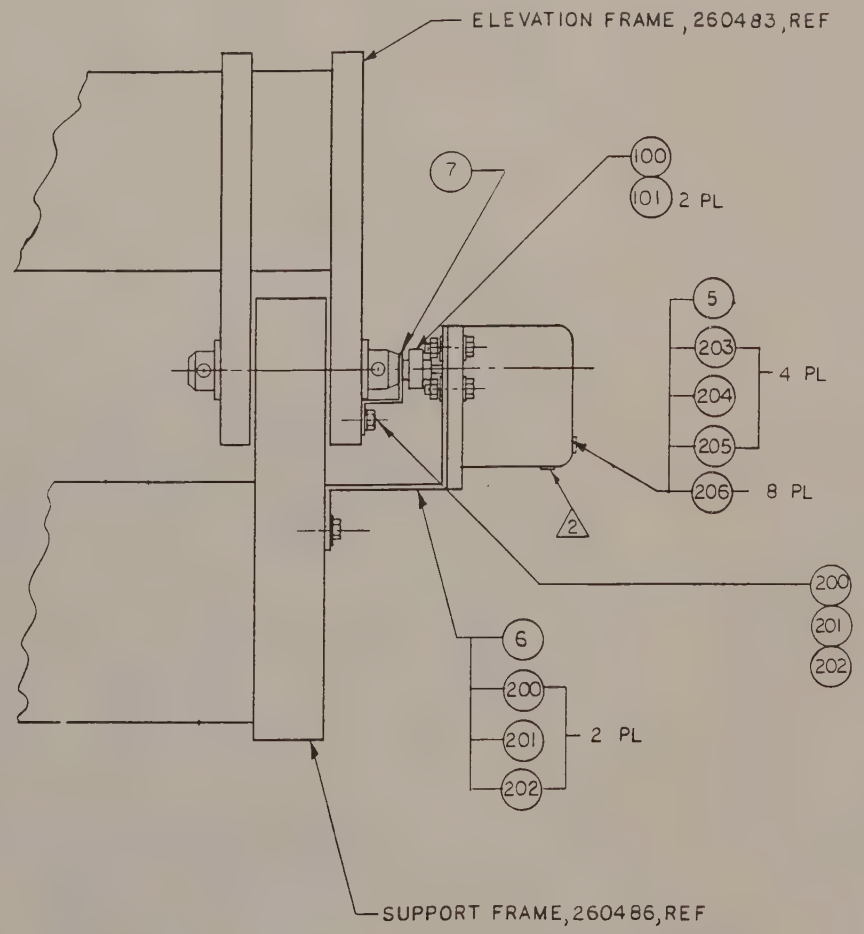
SIZE D | FSCM NO 10110 | DWG NO 263196 | REV

SCALE 1/2 | SHEET 1 OF 2

7-14

APPLICATION		
QTY REQD	NEXT ASSY	USED ON
1		8840

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	SEE SH 1 S Baker	6-24-	
	B	SEE SHT 1. HLH	3-1	
	C	SEE SHT 1.	8/27/81	
	D	SEE SHEET 1 H Edmond	11/19/81	11-19



ELEVATION INSTL

NOTES:

(2) REMOVE ONE PLUG ON BOTTOM OF COVER FOR DRAINAGE.

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFICATION OR PART NO.	NOTES

PARTS LIST

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C CR J K
Q R S U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES

3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1
FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS ALL MACHINED SURFACES EXCEPT AS NOTED 125

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH NONE

CONTRACT NO.

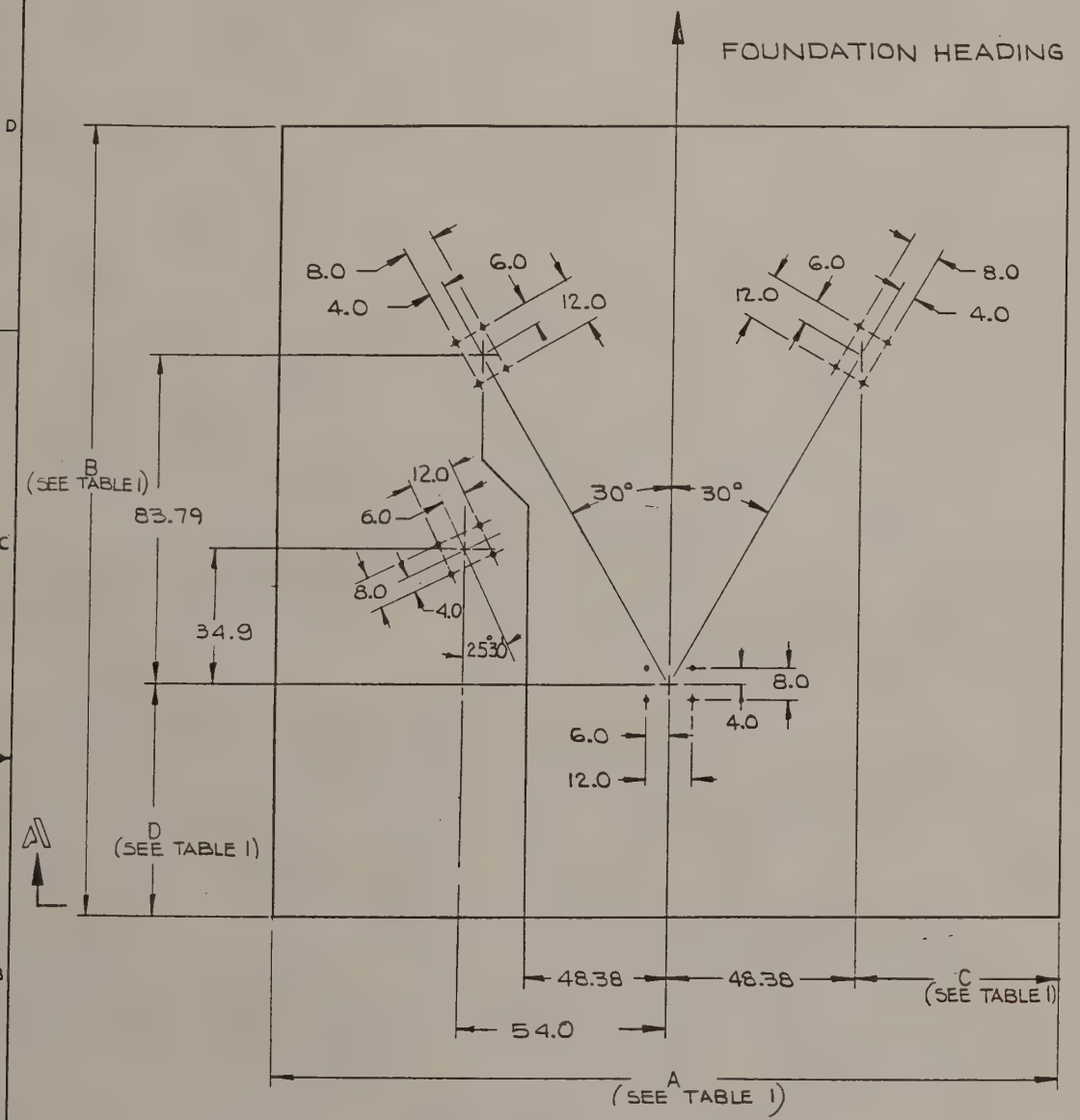
DWN R Howard 11-18-81
ENGR D Allen 2-24-82
CHK R Hammond 3-9-82
PROD
APVD C Hodge 11-20-81
APVD

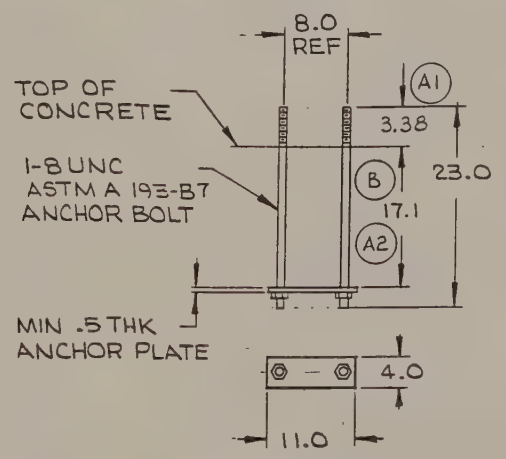
Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

AZ AND EL POT INSTL, 7 METER-MODEL 1210

SIZE D | FSCM NO 10110 | DWG NO 263196 | SCALE 1/2 | SHT 2 OF 2

APPLICATION			REVISIONS				
QTY REQD	NEXT ASSY	USED ON	ZONE	REV	DESCRIPTION	DATE	APPROVED
		8010C		A	1) 3.38 WAS 4.0 2) 15.9 WAS 16.5 DCN 3128, ECR 3137-798 Ray Jones 2-22-83	Ray Jones 2-22-83	
		8010C/KU		B	17.1 WAS 15.9 Ray Jones 4/8/83 DCN 3144, ECR 3207-817	Ray Jones 4-8-83	
				C	SEE SHT 2 CR#		
				D	ADDED SHT 3 • USED ON, CHG TITLE-PER ECR 7840		





ANCHOR BOLT DETAIL
SCALE: 1/10
TYPICAL 8 PL

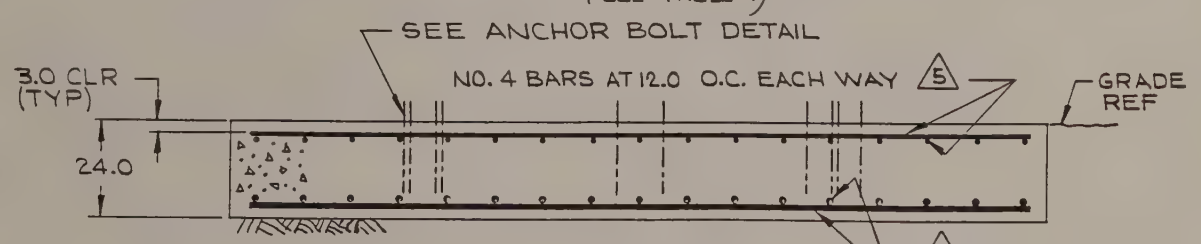
TABLE I

FOUNDATION DESIGN WIND SPEED (MPH)	DIMENSIONS A	B	C	D	BOTTOM REINFORCING BAR SIZE
125	204	204	53.62	60.10	#7(7/8" DIA)
90	150	150	26.62	33.10	#4(1/2" DIA)

NOTES:

1. FOOTINGS DESIGNED FOR 125 MPH AND 90 MPH WIND
2. REINFORCING BARS SHALL CONFORM WITH ASTM A-615-68. ALL BARS SHALL BE GRADE 60.
3. CONCRETE SHALL BE 3000 PSI COMPRESSIVE STRENGTH AT 28 DAYS.
4. SOIL BEARING CAPACITY TO BE A MINIMUM OF 2000 PSF (9765 KG/M²).
5. DO NOT WELD ANCHOR BOLTS.
6. FROST LINE TO BE A MAXIMUM OF 24 IN. BELOW GRADE
7. USE SCIENTIFIC-ATLANTA FOUNDATION TEMPLATE 263031 TO INSURE PROPER ANCHOR BOLT LOCATION
8. PROPER ELECTRICAL GROUNDING SHALL BE PROVIDED BY THE INSTALLING CONTRACTOR TO MEET LOCAL APPLICABLE CODES. THIS MAY TAKE THE FORM OF A BURIED GRID OR A SUITABLE COPPER STAKE, DEPENDING ON LOCAL SOIL CONDITIONS. THE MOUNT SHALL BE ELECTRICALLY CONNECTED TO THE GROUND.

SEE NOTES CONTINUED ZONE A-8



SECTION A-A

IMPORTANT NOTICE

SCIENTIFIC ATLANTA DOES NOT REPRESENT OR WARRANT THAT ANY PARTICULAR DESIGN OR SIZE OF FOUNDATION IS APPROPRIATE FOR ANY PARTICULAR LOCALITY OR INSTALLATION.

SCIENTIFIC-ATLANTA INC

NOTES: CONTINUED

9. PROVISIONS MUST BE MADE TO PROVIDE SUITABLE SUPPORT FOR POWER, RF AND CONTROL CABLES EITHER BY BURIED CONDUIT OR OVERHEAD RACEWAY. IF CONDUIT IS SUPPLIED IT SHALL BE AT LEAST 3 INCHES DIAMETER.
10. THIS DRAWING SUPERSEDES 263024.

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	FSCM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICRO-FARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C CR J K
Q R S U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1
FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125
ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH

CONTRACT NO.

DWN	S Baker	10/19/81
ENGR	R. Perin	10/22/81
CHK	R. Perin	10/22/81
PROD	[illegible]	4/15/88
APVD		
APVD		

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

FOUNDATION PLAN AND OPTIONAL CONDUIT PLACEMENT 7 METER C-BAND

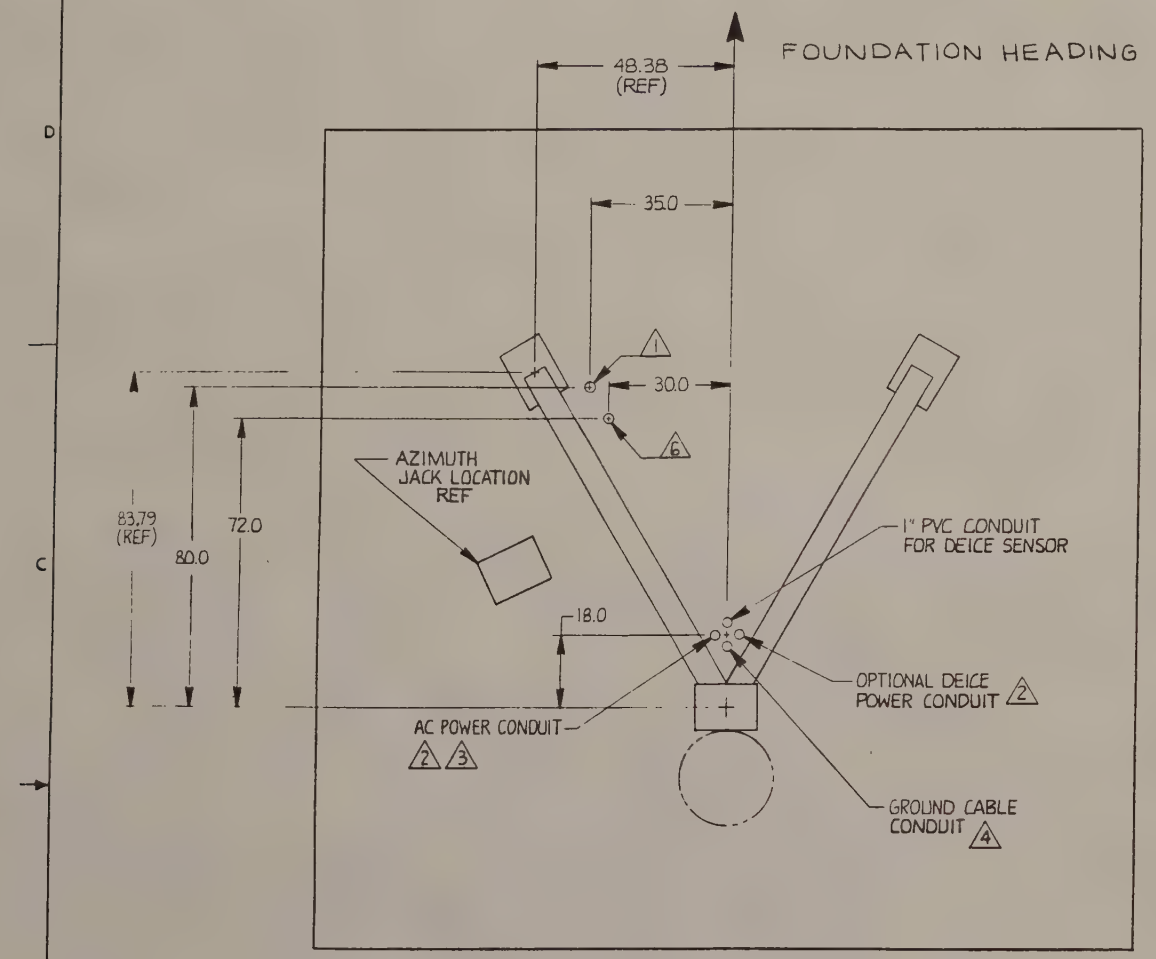
SIZE	FSCM NO.	DWG NO	REV
D	10110	263383	

SCALE 1/20 SHEET 1 OF 3

7-16

55P139Z

APPLICATION			REVISIONS				
QTY REQD	NEXT ASSY	USED ON	ZONE	REV	DESCRIPTION	DATE	APPROVED
		8010C		C	ADDED THIS SHEET, ECR W2470 CR#	4-4-88	
		8010C/KU		D	SEE SHEET 1	4/4/88	



NOTES:

1. 4" DIAMETER PVC CONDUIT WITH A MINIMUM BEND RADIUS OF 36" FOR IFL CABLE.
2. AC POWER CONDUIT FOR ANTENNA MOTORS AND DEICING TO BE SIZED BY ELECTRICAL CONTRACTOR TO MEET LOCAL, STATE, AND NATIONAL ELECTRICAL CODES.
3. AC POWER DISCONNECT BOX NOT SUPPLIED BY SCIENTIFIC-ATLANTA.
4. GROUND CABLE PIG TAILS SHALL BE IN PVC CONDUIT AND NOT TIED TO FOUNDATION REBAR.
5. DO NOT RUN CONDUIT UNDER ANY ANTENNA OR ACTUATOR SUPPORT AREA.
6. OPTIONAL 6" DIAMETER PVC CONDUIT WITH A MINIMUM BEND RADIUS OF 36" FOR TRANSMIT WAVEGUIDE.

ITEM OR FIND NO	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	REMARKS

PARTS LIST

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICRO-FARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C	CR	J	K
Q	R	S	U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES

3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1
FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH NONE

CONTRACT NO

DWN	Christopher P. Dunn	3-18-88
ENGR	Earl D. Bizzy	4/4/88
CHK	Earl D. Bizzy	4/4/88
PROD	[illegible]	4/4/88
APVD		
APVD		

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

FOUNDATION PLAN AND OPTIONAL CONDUIT PLACEMENT 7 METER C-BAND & C/KU

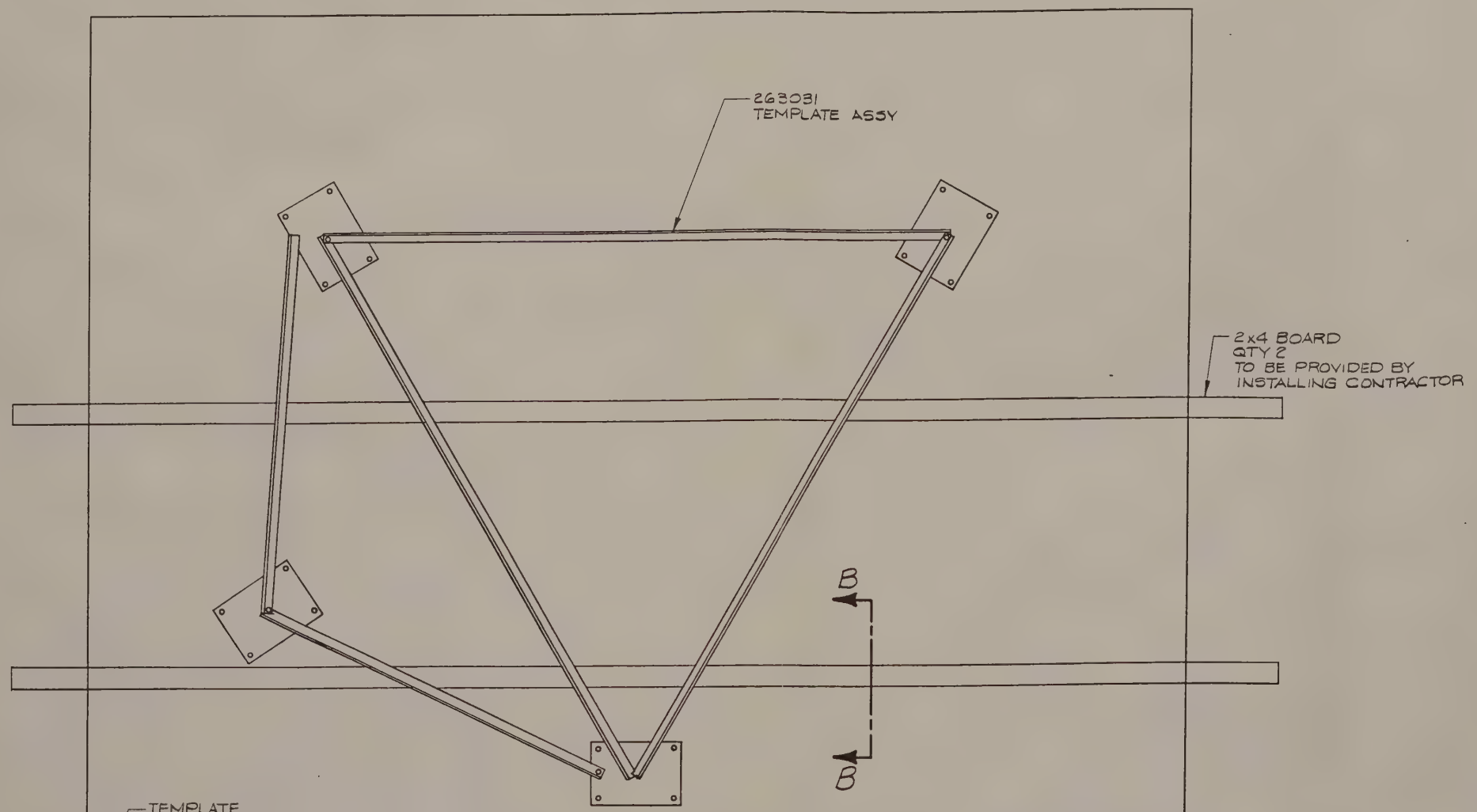
SIZE	FSCM NO	DWG NO	REV
D	10110	263383	D

SCALE N/A SHEET 2

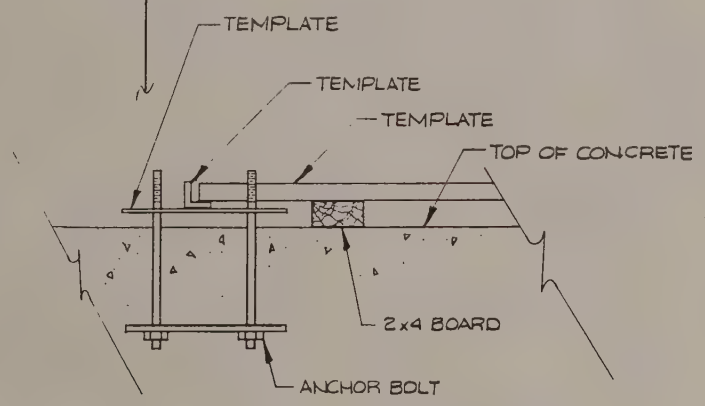
AP

55P139Z

APPLICATION			REVISIONS				
QTY REQD	NEXT ASSY	USED ON	ZONE	REV	DESCRIPTION	DATE	APPR
		8010C			SEE SHEET 1.		
		8010C/KU					



SUGGESTED TEMPLATE SUPPORT



SECTION B-B
N.T.S.

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFICATION OR PART NO.	REMARKS

PARTS LIST

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS, ±5 % AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C	CR	J	K
Q	R	S	U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES

3 PLACE DECIMAL ± .005
2 PLACE DECIMAL ± .02
1 PLACE DECIMAL ± .1
FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH

CONTRACT NO.

DWN		10/14/10
ENG		10/14/10
CHK		10/14/10
PROD	B.B.	1-11-94
APVD		
APVD		

Scientific-Atlanta 4356 Communications Dr Norcross Georgia 30093

FOUNDATION PLAN [illegible]
OPTIONAL CONDU[illegible]
7METER C-BAND &

SIZE	FSCM NO	DWG NO	REV
D	10110	263383	

SCALE | SHEET 3

APPLICATION			REVISIONS				
QTY REQD	NEXT ASSY	USED ON	ZONE	REV	DESCRIPTION	DATE	APPD
REF		8841B	8A,B 4C	A	ADD J5-E, J6-E; SH 1. ADD J5-H, J6-H; SH 2. ECR 6046. KM 12-16-86		
				B	CHG PIN DES J1 & J3. ECR 6142. KM 1-20-87		
				C	REVISED PER 7683 ECR	8-16-90	

TB1 A B
EARTH GND 1 GRN
ØA 2 RED
3ØB 208 VAC ØB 3 BLU
ØC 4 BLK
NEUTRAL 5 WHT
EARTH GND 6 GRN
WHT WHT BLK

+5V J12-15
AZ SPEED LO J13-20
AZ SPEED HI J12-11
EL SPEED LO J13-21
EL SPEED HI J12-13

XF1 F1
TB3 A B
RV52
T1 0 115 0 12T 0T 12B 0B
LIC

J13
12 VAC 7
24 VAC 9 1 26
24 VAC COM 2 25
8 9 10 11 12

TO AZ LMT SW COM NC J5-E J5-B 96 CB3 95 96 CB1 95
J5-A 22 NC 21 A1 LMT UP K3A AZ UP J13-13 A2
J5-F 22 NC 21 A1 LMT DWN K3B AZ DWN J13-6 A2
TO EL LMT SW COM NC J6-E J6-B 96 CB4 95 96 CB2 95
J6-A 22 NC 21 A1 LMT UP K4A EL UP J13-5 A2
J6-F 22 NC 21 A1 LMT DWN K4B EL DWN J13-12 A2

95 CB5 96 J7-B TO POL LMT SW COM NC
A1 21 NC 22 J7-G LMT UP K1A POL UP J13-4 A2
A1 21 NC 22 J7-A LMT DWN K1B POL DWN J13-14 A2

TB 2 3 1 2 4 6
J7-L POL GND
J1-B AZ M1 GND
J2-B AZ M2 GND
J3-B EL M1 GND
J4-B EL M2 GND

ØA ØB ØC
1 2 3 4 5 6
P/O K3A CB1 T1 T2 T3
P/O K3B CB3 T1 T2 T3
P/O K4A CB2 T1 T2 T3
P/O K4B CB4 T1 T2 T3
P/O K1A CB5 T1 T2 T3
P/O K1B CB5 T1 T2 T3

RV41 U41 RV42 U42 RV45 U45 RV46 U46 RV43 U43 RV44 U44 RV47 U47 RV48 U48 RV51 RV50 RV49

J1 A G H AZ HIGH M1 AZ
J2 G H A AZ LOW M2 AZ
J1 D E C B1 AZ
J3 A G H EL HIGH M1 EL
J4 G H A EL LOW M2 EL
J3 D E C B1 EL
J7 E F J K POL

NOTES:
1. U41 THRU U48 ARE HI2D4890 (SA174559)

T1 SECONDARY: 0T 6T 12T / 0B 6B 12B
T1 PRIMARY: 0 115 0 115

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	FSCM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICRO-FARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT
LAST REFERENCE DESIGNATION USED: C CR J K / Q R S U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED
TOLERANCES: 3 PLACE DECIMAL ±.005; 2 PLACE DECIMAL ±.02; 1 PLACE DECIMAL ±.1; FRACTIONS ±; ANGLES ±0° 30'
MAX SURFACE ROUGHNESS ALL MACHINED SURFACES EXCEPT AS NOTED 125
BREAK SHARP EDGES AND CORNERS .010 MAX
FINISH

CONTRACT NO.
DWN Kate Hamilton 7-20-86
ENGR Teddy J. Ellett 7-29-86
CHK [illegible] 7-28-86
PROD L. J. Rambeli 8-5-86
APVD
APVD

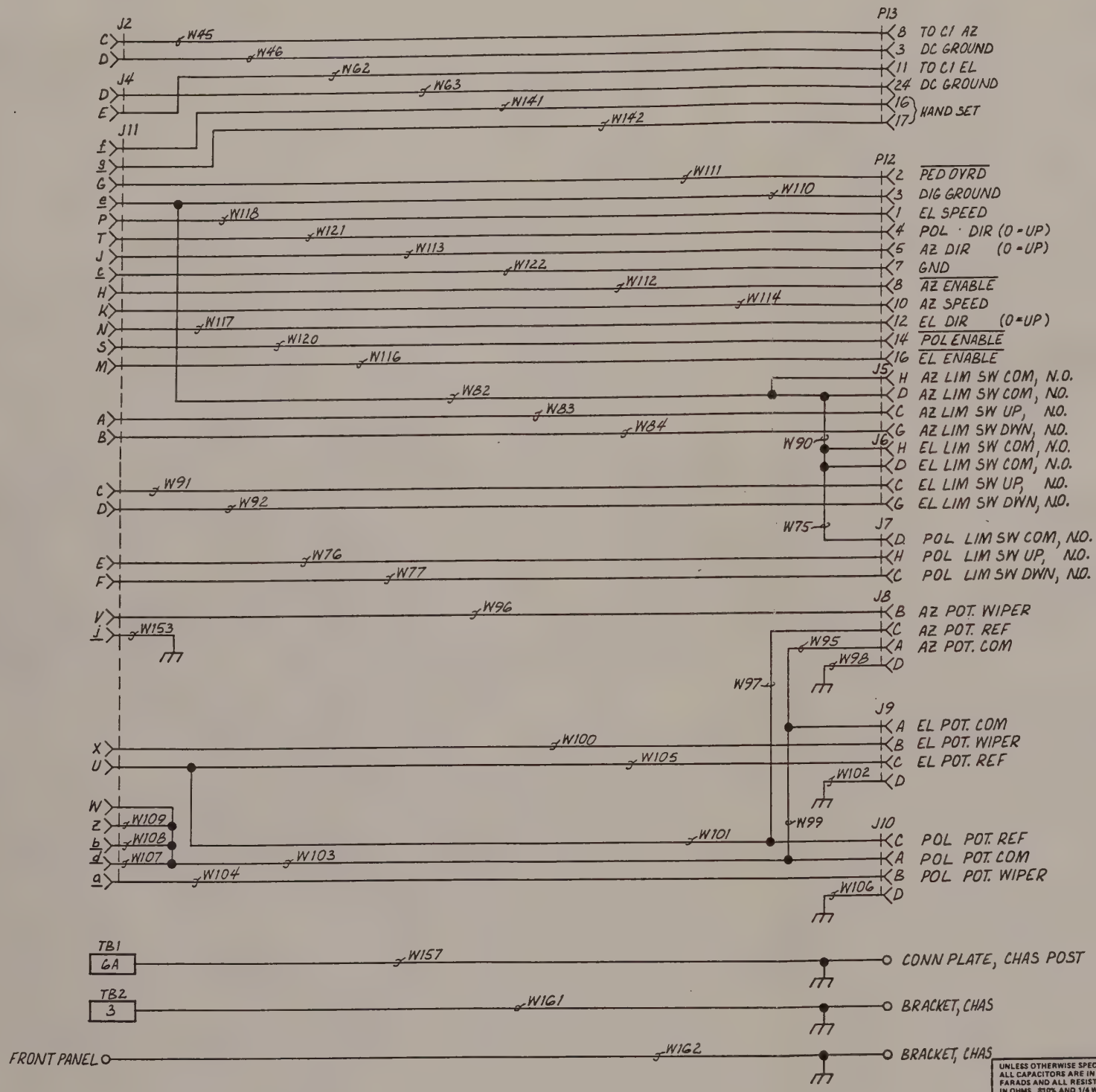
Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

UNIT ASSEMBLY, 8841B
DOMESTIC MODEL
SCHEMATIC DIAGRAM

SIZE D | FSCM NO. 10110 | DWG NO 282059 | REV
SCALE NONE | SHEET 1 of 2

55P139Z

APPLICATION			REVISIONS				
QTY REQD	NEXT ASSY	USED ON	ZONE	REV	DESCRIPTION	DATE	APPROVED
		8841B	C4	A	ADD J5-H, J6-H. ECR6046.	12-16-86	
				B	SEE SH 1.	2-20-87	
				C	SEE SH 1.	8-16-90	



ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENT NO OR PART NO	FSCM NO

PARTS LIST

UNLESS OTHERWISE SPECIFIED, ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C	CR	J	K
Q	R	S	U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES

3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1

FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH

CONTRACT NO.

DWN	Lotte Hamilton	7-22-86
ENGR	Teddy L Udell	7-28-86
CHK	D. Shaffer	9-28-86
PROD	L L Gamble	8-5-86
APVD		
APVD		

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

UNIT ASSEMBLY 8841B
DOMESTIC MODEL
SCHEMATIC DIAGRAM

SIZE	FSCM NO	DWG NO	REV
D	10110	282059	C

SCALE NONE SHEET 2 OF 2

7-20

PED OVR 2
DIG GND 3
POL DIRECTION 0=UP 4
AZ/ HOUR DIRECTION 0=UP 5
EL DIRECTION 0=UP 12
EL ENABLE 16
AZ ENABLE 8
POL. ENABLE 14
C GROUND 7

J13
4 KIA (POL UP)
14 KIB (POL DN)
13 TO K3A (AZ UP)
6 TO K3B (AZ DN)
5 TO K4A (EL UP)
12 TO K4B (EL DN)
3 2D1

337069

ITEM OR FIND NO	QTY REQD	A-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO	FSCM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED ALL CAPACITORS ARE IN MICRO-FARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED
C16 CR16 J13 K
Q16 R26 B4 U49

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED
TOLERANCES
2 PLACE DECIMAL ±.005
3 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1
FRACTIONS ± ANGLES ±0° 30'
MAX SURFACE ROUGHNESS 125
ALL MACHINED SURFACES EXCEPT AS NOTED
BREAK SHARP EDGES AND CORNERS .010 MAX
FINISH NONE

CONTRACT NO

DRAWN		2-9-84
ENGR		5-11-84
CHK		5-11-84
PROD		6-25-84
APPROVED		
APVD		

Scientific-Atlanta P.O. Box 105027 Atlanta, Georgia 30348

PWB CONTROL LOGIC 8841 B
SCHEMATIC DIAGRAM

SIZE	FSCM NO	DWG NO	REV
F	10110	337070	IC

SCALE NONE SHEET 1 OF 2

7-21

U	DESCRIPTION	VCC	GND
1-3	SN54LS04J	14	7
4	LM323K	–	–
5-8	SN54LS11J	14	7
9-10	SN54LS02J	14	7
11,12	SN54LS32J	14	7
14	SN54LS08J	14	7
20-26	4N33	–	–
28,46			
30-35	MOC 3011	–	–
36,37	SIP-10K,R	1	–
38-40	SIP-390,R	1	–
45	SN5407J	14	7
47,49	MCA255	1	–

U DESIG NOT USED:
13, 15-19, 27, 29, 41-44, 48

NOT USED
U36-5 10K
U37-2 10K
U37-4 10K
U40-4 390
U40-6 390
U40-9 390
U40-10 390

NOT USED
U3D U3F
U12B U12C

ITEM NO	QTY	PART NO	DESCRIPTION OR SUBSTITUTE	MATL SPEC AND SIZE OR COMPOUND AT VALVE	INSPECTION OR PART NO	FROM NO

PARTS LIST

UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED
TOLERANCES
2 PLACE DECIMAL ± .03
3 PLACE DECIMAL ± .010
FRACTIONS ± ANGLES 0° 30'
MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED
BREAK SHARP EDGES AND CORNERS .010 MAX
ALL DIMENSIONS ARE IN INCHES ALL CAPACITORS ARE IN MICRO FARAD AND ALL RESISTORS ARE IN OHMS, 0.05 AND 1/4 WATT
UNLESS OTHERWISE SPECIFIED DESIGNATION LEADS
LAST REFERENCE
NEXT ASSY
NONE

Scientific-Atlanta P.O. Box 105027 Atlanta, Georgia 30348

PWB CONTROL LOGIC 8841B
SCHEMATIC DIAGRAM

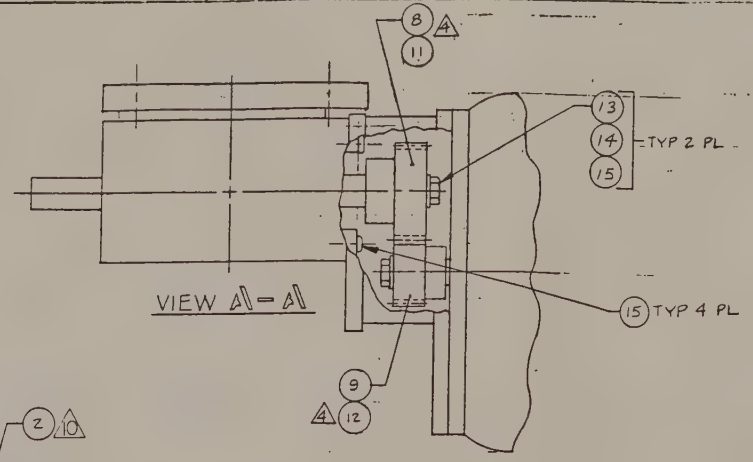
SIZE	PROJ NO	DWG NO	REV
F	10110	337070	C

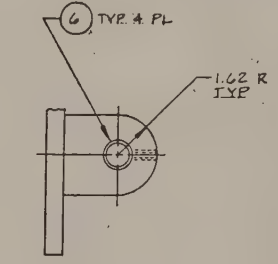
SCALE NONE SHEET 2 of 2

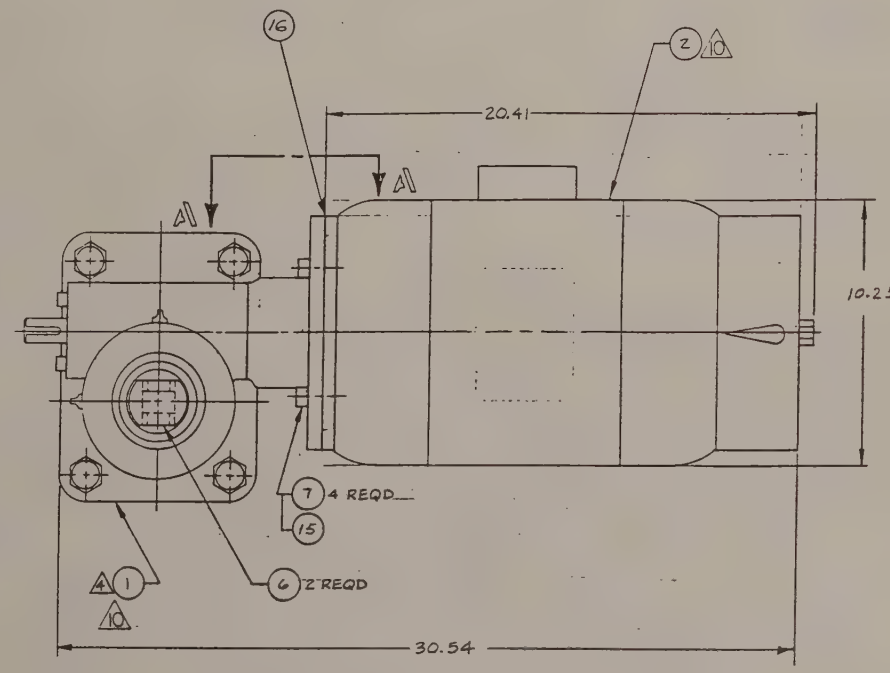
J12-1 (EL SPEED) (O-LOW)
J12-13 (EL SPEED HIGH)
J12-11 (AZ SPEED HIGH)
J13-20 (AZ SPEED LOW)
J12-10 (AZ SPEED) (O=LOW)
J13-11 (CI EL)
J13-9
J13-3 (DC GROUND)
J13-8 (TO CI AZ)
J13-7 (EL SPEED LOW)
J12-5 (SSR's)
J13-17
J13-16
J13-1
J13-2
J13-24
J13-25
J13-26
J13 HANDSET CONNECTORS
J4
U40-5 390 10K
U37-3 10K
U40-3 390 10K
U36-10 10K
U36-9 10K
U28
U26
U3E
U3C
U4
U49 MCA255
U47 MCA255
U14A
U14B
U14C
U14D
U10C
U10D
U11D
U12A
LOW SPEED
H1/LO SPEED (LOCAL)
0=HIGH
+5VDC
+24VDC
Q9 MJE 3055
Q7 MJE 3055
Q16 2N2905A
Q14 2N2905A
Q12 2N2222
Q11 2N2222
Q15 MPS-A12
Q13 MPS-A12
CR10 IN4002
CR8 IN4002
CR9 IN5820
CR11 IN5820
CR15 IN5820
CR16 IN5820
CR12 VH 14B
CR13 VH14B
R20 47 ½WATT
R18 47 ½WATT
R22 33
R21 33
R19 33
R23 33
R26 10K
R25 10K
R24 10K
R17 10K
R27 5.10W
C15 10
C14 10
C12 10
C13 10
C16 500
C10 1600 40V
C11 .1
C9 .22
CR14 IL5355A 18V
LM323K
IC11
IF6
IF6
(TO CI AZ)
24VAC
1B2
1B1
(DC GROUND)
(EL SPEED HIGH)
(EL SPEED LOW)
(SSR's)
(CI EL)
(AZ SPEED HIGH)
(AZ SPEED LOW)
(AZ SPEED) (O=LOW)
(EL SPEED) (O-LOW)

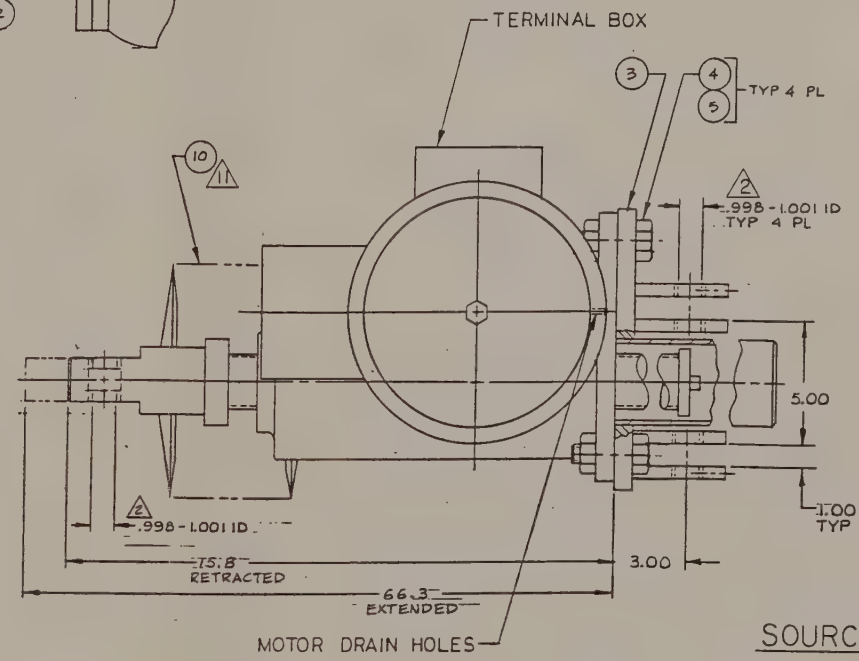
55P139Z

APPLICATION			REVISIONS				
QTY REQD	NEXT ASSY	USED ON	ZONE	REV	DESCRIPTION	DATE	APPROVED
1	260873	B02BM			REDRAWN WITH CHANGES SEE 339657 A AS IT WAS.		
				B	ECR 4982 FILE NO. 1383	3/4/85	
				C	ITEM 10 WAS 02149-01-12. ADDED SA No. W2101	11-25-85	
				D	ADDED NOTE 13 & ITEM 17 PER ECR 6765. EDA 8-21-89	3/14/07	









SOURCE CONTROL DRAWING

ITEM OR FIND NO	QTY REQD	SA OR SPECIFICATION NO	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO	FROM NO
17	1	80560	ZIPLOCK BAG			13
16	AR	86520	SEALANT		738 RTV	9
15	AR	85339	ADHESIVE		Z90	7
14	2		WASHER, FLAT		B2149-00-07	5
13	2	88514	SCR HEX HD	3/8-16 X 1 STL ZN	PL 12	
12	AR	66716	KEY	1/16 SQ. GRADE 1018		
11	AR	66385	KEY	1/4 SQ. GRADE 1018	P1000-4	5
10	REF	367324	BOOT		D2149-00-12	5
9	1	337846	MOTOR GEAR, SPUR		B2149-00-15	5
8	REF	268501	JACK GEAR, SPUR		B2149-00-08	5
7	4	173800	SCREW, SOC HD	3/8-16X1 SST		
6	6	260849	BEARING		B2149-00-17	5
5	4	88532	NUT, HEX	3/8-10 STL ZN PL	12	
4	4	173823	SCREW, HEX HD	5/16-10X2 1/2 STL ZN	PL 12	
3	1	260510-2	MOUNT, ACTUATOR		D2149-00-16	5
2	1	337844	BRAKE MOTOR, EL			8
1	1	339673	JACK, BALL SCREW		D2001-10	5

PARTS LIST

NOTES:

1. MOTOR JUNCTION BOXES TO BE CONNECTED FOR 208 V OPERATION.
2. DO NOT PAINT BEARING BORES.
3. ASSEMBLY FINISH TO BE RUSTOLEUM PAINT PRIMER NO. 1573 OR M20-7504 AND RUSTOLEUM WHITE PAINT NO. 1590.
4. LUBRICATE WITH AEROSHELL 7 GREASE.
5. NOOK INDUSTRIES, INC CLEVELAND, OHIO
6. PRIOR TO SHIPPING, TESTING AND FINAL ASSEMBLY IS REQUIRED PER SCIENTIFIC-ATLANTA SPECIFICATION 337847.
7. LOCTITE CORPORATION NEWINGTON, CT. 06111
8. REULAND ELECTRIC COMPANY MOTOR DIVISION INDUSTRY, CALIFORNIA 91748
9. DOW CORNING CORP MIDLAND, MICH 71984
10. SERIAL NUMBER TAGS ON ITEMS 1 AND 2 MUST SPECIFY THE FOLLOWING:
    ITEM 1: SA PART NO. 339673 B
    ITEM 2: SA PART NO. 337844 A
11. DRAIN HOLES REQUIRED IN BOOT.
12. MATERIAL FOR THIS HARDWARE IS GRADE 5 STEEL.
13. INSERT ASSEMBLY PER 369889. PLACE INSPECTION CHECK LIST INTO PLASTIC ZIPLOCK BAG, ITEM 17, UPON COMPLETION AND TAPE BAG TO ACTUATOR DURING CRATING FOR SHIPMENT.

ONLY THE ITEM DESCRIBED ON THIS DRAWING WHEN PROCURED FROM THE VENDOR(S) LISTED HEREON IS APPROVED BY SCIENTIFIC-ATLANTA, INC. FOR USE IN THE APPLICATION(S) SPECIFIED HEREON. ANY FUTURE REVISIONS OR SUBSTITUTIONS SHALL NOT BE USED WITHOUT PRIOR REVIEW AND APPROVAL BY SCIENTIFIC-ATLANTA, INC.

APPROVED SOURCES OF SUPPLY
NOOK INDUSTRIES, INC. CLEVELAND, OHIO 44122
PART NO. 2149-01-00 REV B

UNLESS OTHERWISE SPECIFIED ALL CAPACITORS ARE IN MICRO-FARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C CR J E
Q R S U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ±.005
2 PLACE DECIMAL ±.02
1 PLACE DECIMAL ±.1

FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH A 13

CONTRACT NO.

DES RAY JONES 7/12/84
DRGS R.D. STEWART 6/13/84
CHK J. UNDERWOOD 7/23/84
PROD V. KOEVES 7/25/84
APVD
APVD

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340

ACTUATOR ASSEMBLY, ELEVATION MOTORIZED-7 METER

SIZE D | FSCM NO 10110 | DWG NO 339657 | REV D

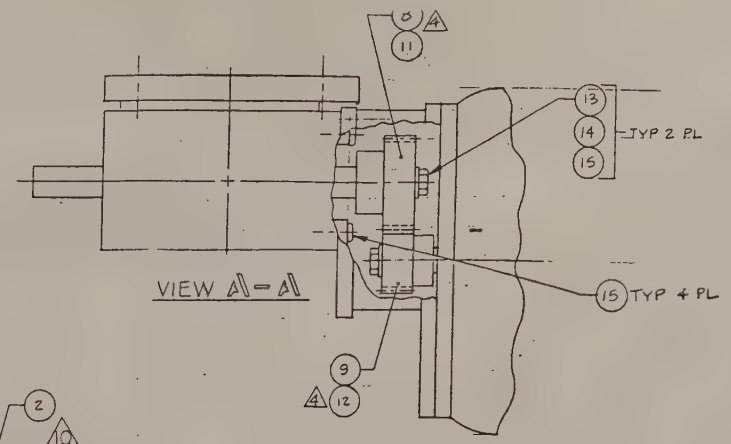
339657 D

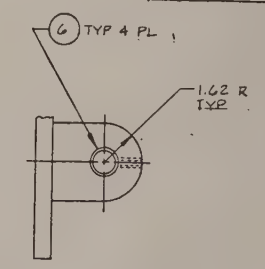
7-23

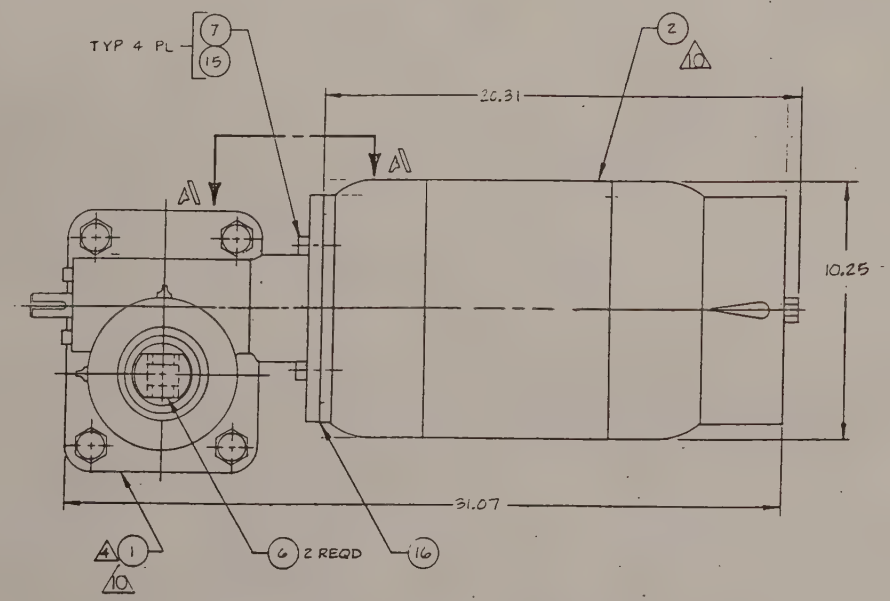
55P139Z

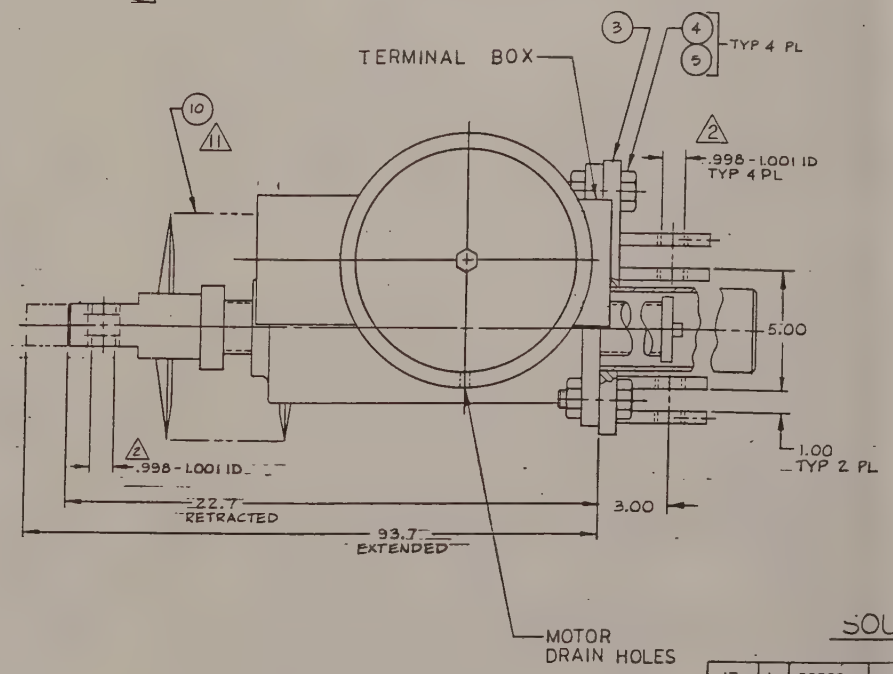
1	260873	8028M	

	B	REDRAWN WITH CHANGES SEE 339658 A FOR AS IT WAS. ECR 4976 FILE 1384	3/4/85	
	C	ADDED SA NO. TO ITEM 10 ECR W2102		
	D	ADDED NOTE 13 & ITEM 17 PER ECR 6764. EDA 8-21-89	9/7/89	









SOURCE CONTROL DRAWING

ITEM OR FUNC NO	QTY REQD	S-A STOCK NO	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO	FIGURE NO
17	1	80560	ZIPLOCK BAG			13
16	AR	86520	SEALANT		738 RTV	9
15	AR	85339	ADHESIVE		Z90	7
14	2		WASHER, FLAT		B2149-00-07	15
13	2	88514	SCREW, HEX HD	$\frac{3}{8}$-16X1, STL ZN PLD	12	
12	AR	66716	KEY	$\frac{3}{16}$ SQ. GRADE 1018		
11	AR	66385	KEY	$\frac{1}{4}$ SQ. GRADE 1018	P1000-4	5
10	REF	367325	BOOT		D2148-00-09	15
9	1	337846	MOTOR GEAR, SPUR		B2149-00-15	5
8	REF	268502	JACK GEAR, SPUR		B2146-00-03	15
7	4	173801	SCREW, SOC HD	$\frac{1}{2}$-13X1 SST		
6	6	260849	BEARING		B2149-00-17	15
5	4	88533	NUT, HEX	1-8 STL ZN PLD	12	
4	4	88529	SCREW, HEX HD	1-8X2$\frac{1}{2}$ STL ZN PLD	12	
3	1	260510-1	MOUNT, ACTUATOR		D2148-00-13	5
2	1	337845	BRAKE MOTOR, AZ			6
1	1	339672	JACK, BALL SCREW		D2601-20	5

PARTS LIST

NOTES:

1. MOTOR JUNCTION BOXES TO BE CONNECTED FOR 208 V OPERATION.
2. DO NOT PAINT BEARING BORES.
3. ASSEMBLY FINISH TO BE RUSTOLEUM PAINT PRIMER NO. 1573 OR M20-7504 AND RUSTOLEUM WHITE PAINT NO. 1590.
4. LUBRICATE WITH AEROSHELL 7 GREASE.
5. NOOK INDUSTRIES, INC CLEVELAND, OHIO
6. PRIOR TO SHIPPING, TESTING AND FINAL ASSEMBLY IS REQUIRED PER SCIENTIFIC-ATLANTA SPECIFICATION 337847.
7. LOCTITE CORPORATION NEWINGTON, CT. 06111
8. REULAND ELECTRIC COMPANY MOTOR DIVISION INDUSTRY, CALIFORNIA 91748
9. DOW CORNING CORP MIDLAND, MICH 71984
10. SERIAL NUMBER TAGS ON ITEMS 1 AND 2 MUST SPECIFY THE FOLLOWING:
    ITEM 1: SA PART NO. 339672 B
    ITEM 2: SA PART NO. 337845 A
11. DRAIN HOLES REQUIRED IN BOOT.
12. MATERIAL FOR THIS HARDWARE IS GRADE 5 STEEL.
13. INSERT ASSEMBLY PER 369889. PLACE INSPECTION CHECK LIST INTO PLASTIC ZIPLOCK BAG, ITEM 17, UPON COMPLETION AND TAPE BAG TO ACTUATOR DURING CRATING FOR SHIPMENT.

ONLY THE ITEM DESCRIBED ON THIS DRAWING WHEN PROCURED FROM THE VENDOR(S) LISTED HEREON IS APPROVED BY SCIENTIFIC-ATLANTA, INC. FOR USE IN THE APPLICATION(S) SPECIFIED HEREON. ANY FUTURE REVISIONS OR SUBSTITUTIONS SHALL NOT BE USED WITHOUT PRIOR REVIEW AND APPROVAL BY SCIENTIFIC-ATLANTA, INC.

APPROVED SOURCES OF SUPPLY
NOOK INDUSTRIES, INC. CLEVELAND, OHIO 44122
PART NO. 2148-01-00 REV B

UNLESS OTHERWISE SPECIFIED ALL CAPACITORS ARE IN MICRO-FARADS AND ALL RESISTORS ARE IN OHMS, 5% AND 1/4 WATT. LAST REFERENCE DESIGNATION USED: C CR J K Q R S U

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED. TOLERANCES: 3 PLACE DECIMAL ±.005; 2 PLACE DECIMAL ±.02; 1 PLACE DECIMAL ±.1; FRACTIONS ±; ANGLES ±2° 30'. MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED. BREAK SHARP EDGES AND CORNERS .010 MAX. FINISH 2/3

CONTRACT NO		
DRN	JAY JONES	5/2/84
ENGR	R.D. STEWART	5/31/84
ENGR	R. UNDERWOOD	5/30/84
PROD	V. REEVES	6/15/84
APVD		
APVD		

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ACTUATOR ASSEMBLY, AZIMUTH, MOTORIZED - 7 METER

SIZE	FSCM NO	DWG NO	REV
D	10110	339658	D

SCALE NON-SI | SHEET

339658 D

7-24

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340			
8841B SYSTEM SCHEMATIC DIAGRAM			
		SIZE D	FSCM NO 10110
		SCALE NONE	362533

ITEM OR PLD NO	QTY & SQD	S-A STOCK NO	NOMENCLATURE OR DESCRIPTION	MFR. SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	F.S.N.C.

PARTS LIST

CONTRACT NO.

DWN Bob Hamilton 7-27-82
ENGR
CHK Terry J. Clark 7-28-82
PROD W. Cook 7-28-82
APVD
APVC 8-5-82

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ± .005
2 PLACE DECIMAL ± .02
1 PLACE DECIMAL ± .1
FRACTIONS ± ANGLES ±0° 30'

MAX SURFACE ROUGHNESS 125 ALL MACHINED SURFACES EXCEPT AS NOTED

BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH NONE

UNLESS OTHERWISE SPECIFIED: ALL CAPACITORS ARE IN MICRO-FARADS AND ALL RESISTORS ARE IN OHMS, ±10% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED

C CM J K
D M E U

APPLICATION

REF	SER STD	8841B
QTY REQD		
NEXT ASSY		
USED ON		

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	REV TO MATCH HARNESS & CABLE CONFIGURATION, ECR 6031, WM 10-13-82		

NOTE: THE ITEMS IN THE AZIMUTH,ELEVATION AND POLARIZATION AXIS HARDWARE BOXES ARE NOT PART OF THE 8841B. THEY ARE FOR REFERENCE ONLY.

ELEVATION AXIS HARDWARE

AZIMUTH AXIS HARDWARE

POLARIZATION AXIS HARDWARE

* IF BRAKE SOLENOID IS 110V, ONE WIRE IS CONNECTED TO J7-K INSTEAD OF THE MOTOR.

3 Ø POWER FROM CUSTOMER EQPT

TB1
- 1 EARTH GND
- 2 A
- 3 B
- 4 C
- 5 NEUTRAL
- 6 EARTH GND
- 7 EARTH GND

380V - 8841B
INTERNATIONAL MODEL
ASSY 2820392
SCHEM 2820520

220V - 8841B
DOMESTIC MODEL
ASSY 3370652
SCHEM 2820592

BOTTOM PLATE ASSEMBLY

EL M1 GND
EL M1
EL B1
EL M2
EL M2 GND
AZ M2 GND
AZ M2
AZ B1
AZ M1
AZ M1 GND
EL LIM COMM
AZ LIM COMM
POL LIMIT COMM
POL LIMIT DN
POL LIMIT UP
EL LIMIT DN
EL LIMIT UP
AZ LIMIT DN
AZ LIMIT UP
POL GND
POL MOTOR

J7 A B C D E F K J L H G M J10

POL LIMIT DN
POL LIMIT UP
V POT POL
EL LIMIT DN
EL LIMIT UP
ANALOG GND
V POT AZ
V REF
AZ LIMIT DN
DIGITAL GND
AZ LIMIT UP
V POT EL
V COM POL
V COM EL
V COM AZ

J11 W Z b X M • B U V d C F E d D

J9 A B C C D E H G B A
J4 D C H G B A
J3 A D H G F B E C H G
J6 A B C E D C H G B A
J8 A D C H G B A
J2 A B C E D C H G B A
J1 G H D F B E C H G
J5 A B C E D C H G B A

B2 C1 M2 B1 M1 UP LIM DN LIM

LOGIC ASSEMBLY
PMB ASSEMBLY
ASSY 3370?2
SCHEM 337070

AZC1 8 J13
AZB2 10
UNFILTERED DC GND 24 3
ELC1 11 J13
ELB2 19

+5VDC
AZ SPEED
EL SPEED
K3A
6VAC COMMON
24VAC COMMON
24VAC COMMON
K1B
K1A
K3B
K4A
K4B

J12 15 13 11 9 7 25 2 26 1 14 4 6 5 12 J13

J13 17 16 3 7 9 6 1 10 16 8 14 12 5 4 J12

J4 1 2

HANDSET CONNECTOR J5

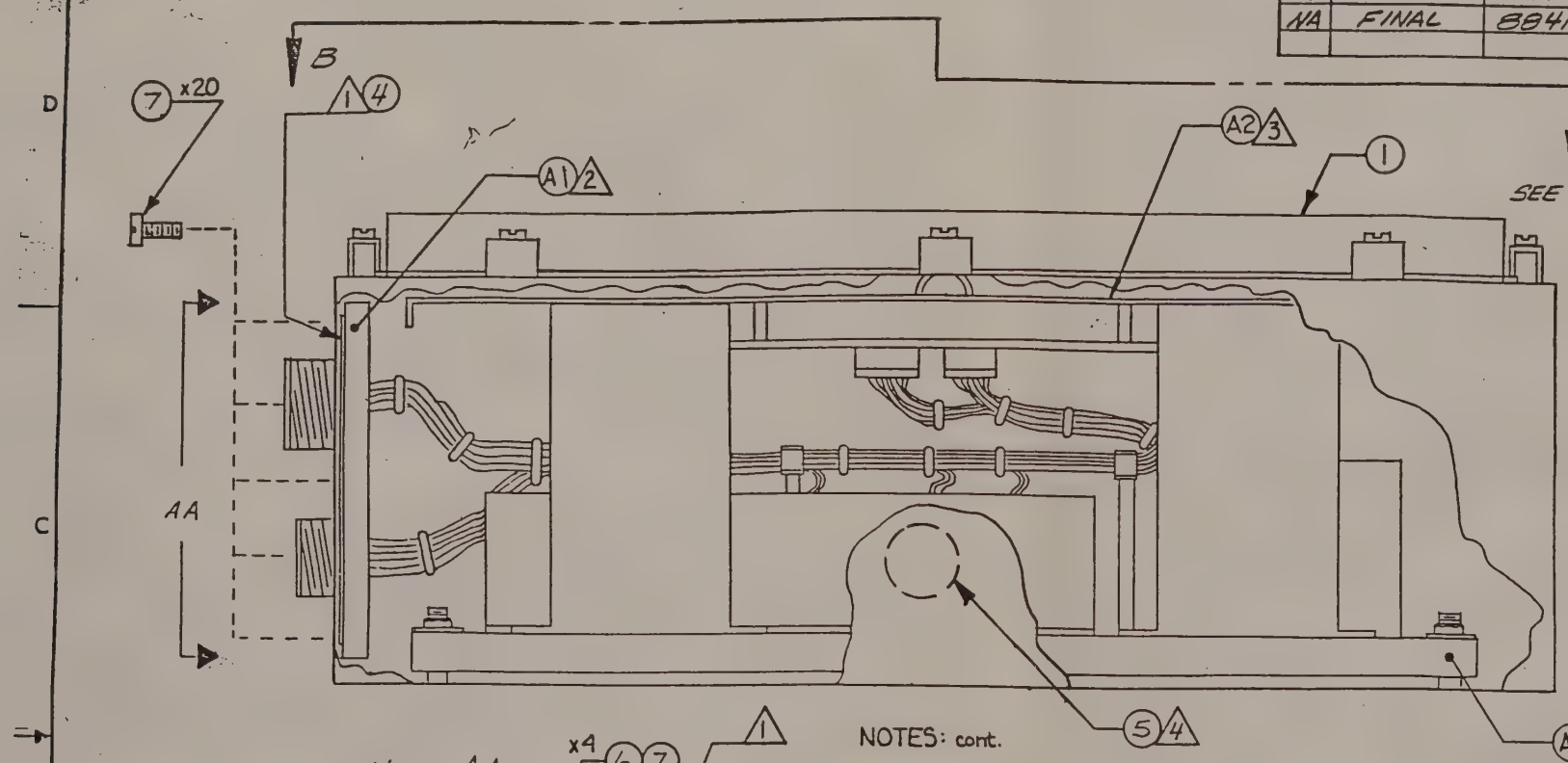
PED OVERRIDE

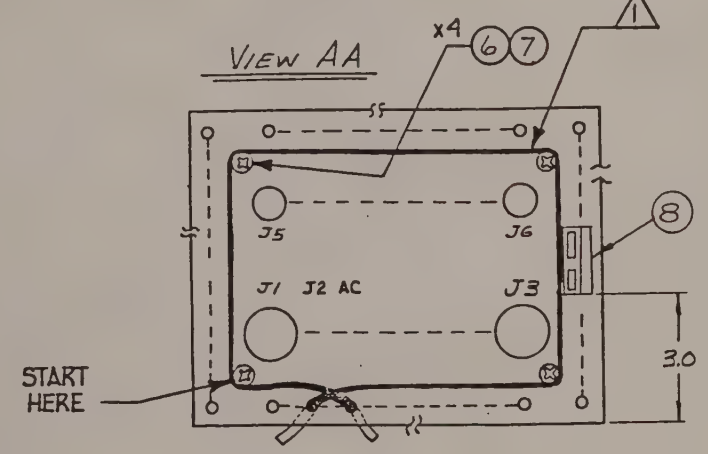
HANDSET "B"
HANDSET "A"
CGND
EL CLUTCH
AZ CLUTCH
EL SPEED
AZ SPEED
EL ENABLE
AZ ENABLE
POL ENABLE
EL DIRECTION
AZ DIRECTION
POL DIRECTION
LOCAL/REMOTE (PED OVRD)

J11 9 17 3 C R L P K M H S N J T G

APPLICATION		
QTY REQD	NEXT ASSY	USED ON
NA	FINAL	8841B

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	CREATED PER ECR 5753 PSG	6/18/86	W. Craft
	B	DEL 362539 (REF & NOMEN) ON ALL DWGS. 363910, 909: ADD NOTE 8. ECR 5981. QTY ITEM 9 WAS 1. W 11-26-86	1-30-87	W. Craft
	C	REVISED PER ECR 7392: CB-2 WAS 172225 & CB-3 WAS 175253 ECN 101389	11-8-89	R.C. Kramer





ASSY NO.	MODEL NO.	
363900	8841B-42	6
363901	8841B-32	6
363902	8841.3-31	6
363903	8841B-41	6
363904	8841B-40	6
363905	8841B-22D	
363906	8841B-02	6
363907	8841B-01	6
363908	8841B-10	6
363909	8841B-71D	
363910	8841B-61D	
363911	8841B-72D	NO P/L
363912	8841B-62D	
363913	8841B-52D	

NOTES: cont.

3 INSTALL ASSY A2, REFERENCE 362526 TO ASSY A1
a) SECURE LEFT MTG. RAIL 362529 WITH LEFT HAND SIDE OF HINGE PAIR 362528, USING HARDWARE OF A2 TO THE LEFT BRACKETS OF A1.
b) COMPLETE FINAL INSTALLATION BY SLIPPING IN PLACE BALANCE OF ASSY A2.

4 INSTALL ITEM 5 ON THE INSIDE OF THE ENCLOSURE WALL ITEM 1 APPROX AS SHOWN.

5 FOR WIRING INSTRUCTIONS OF ITEMS CB1 THRU CB5 SEE WIRE LIST 337065.

6 OBSOLETE

7. REF SCHEMATICS 337070 AND 282059.

8. IF ITEM 9 (73967) CAP AND CHAIN IS REQUIRED INSTALL ON CONNECTORS J2 AND J4 SECURING CHAIN WITH CONNECTOR MOUNTING SCREW.

SEE SEPARATE PARTS LIST

NOTES:

1 INSTALL GASKET 4, APPROX. 48 INCHES TO THE CONNECTOR I/O PLATE/HARNESS ASSY A1. INSERT GASKET ENDS, ONE PER, THRU THE THREADED HOLE UNDER "J2" & "AC". WRAP GASKET AROUND FORM, STARTING AT POST NEAREST "J1" IN A CW DIRECTION AS SHOWN. ENSURE TAUTNESS. IF NEEDED, PULL ON GASKET ENDS FROM FARSIDE.

2 INSERT ASSY A1 INTO THE ENCLOSURE 1
a) SECURE ASSY A1 TO THE ENCLOSURE USING THE PROVIDED FLAT WASHER & NUT. 4 PLACES.
b) SECURE ASSY A1 TO THE ENCLOSURE USING ITEM 7. START AT ANY CORNER AND BEGIN THE SECURING PROCESS, IN A CW DIRECTION BY PROGRESSIVELY INCREASING THE TORQUE ON ITEM 7, UNTIL THE TWO (2) SURFACE COMPRESSES THE GASKET TO WITHIN 3/64 OF AN INCH. AT FINAL RESTING, THERE WILL BE A GAP BETWEEN A1 AND ITEM 1.

ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	FSCM NO.

PARTS LIST

UNLESS OTHERWISE SPECIFIED ALL CAPACITORS ARE IN MICROFARADS AND ALL RESISTORS ARE IN OHMS, 5% AND 1/4 WATT

LAST REFERENCE DESIGNATION USED: C CR J R / Q S T V

ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

FRACTIONS ± ANGLES ±0°30'

BREAK SHARP EDGES AND CORNERS 010 MAX

FINISH NONE

CONTRACT NO.

DWN	P. GREEN	6/18/86
ENGR		6/18/86
CHK		6/18/86
PROD		7-7-86
APVD		
APVD		

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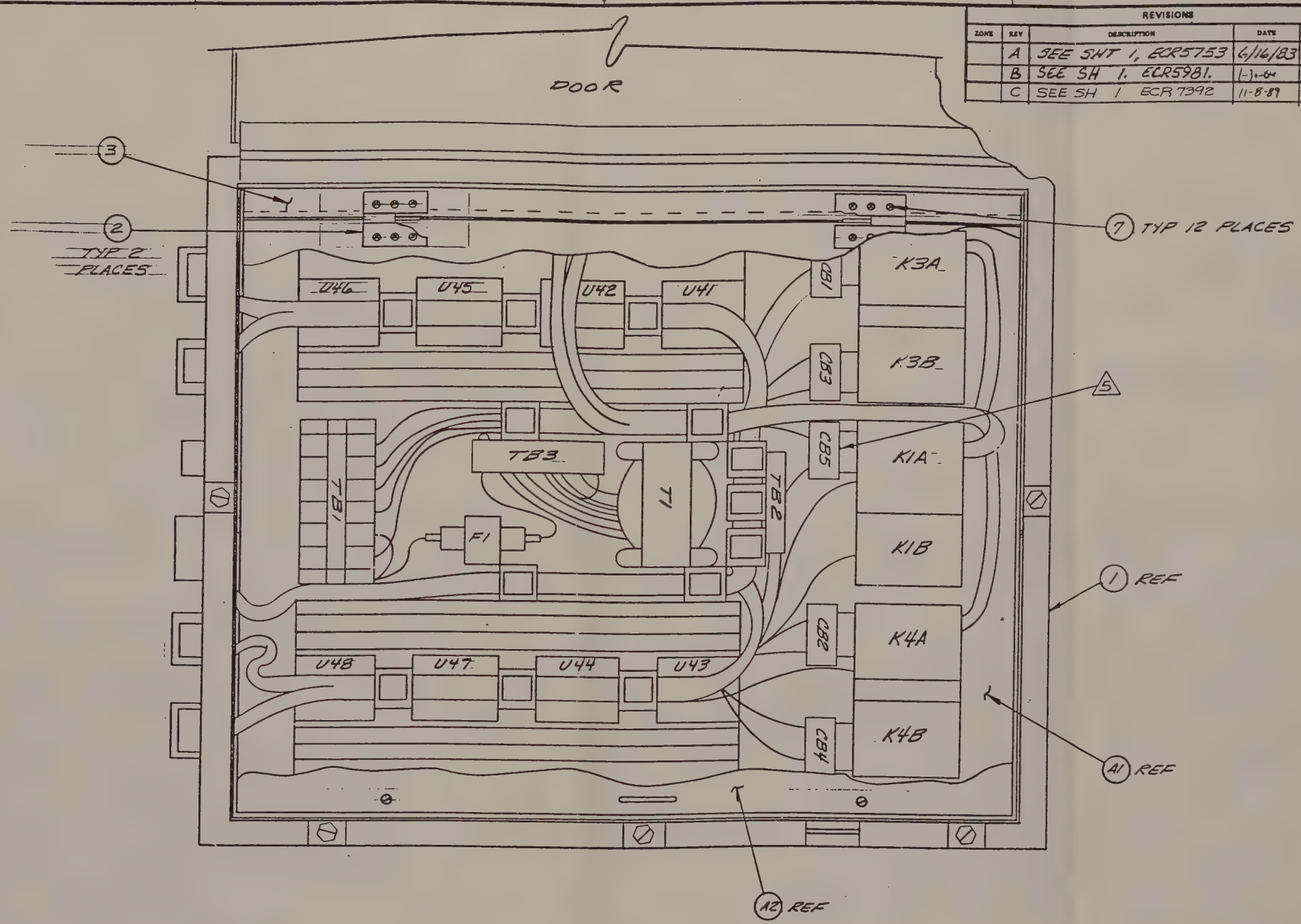
ASSY, TOP-8841B-XX
ANT. MOTOR CONT.

SIZE	FSCM NO.	DWG NO.	REV
C	10110	363900-363913	C

SCALE NONE SHEET 1 of 2

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	A	SEE SHT 1, ECR5753	6/16/83	
	B	SEE SH 1. ECR5981.	1-10-84	
	C	SEE SH 1 ECR 7392	11-8-89	R. Clem



VIEW B-B

SHOWN WITH ENCLOSURE DOOR OPEN

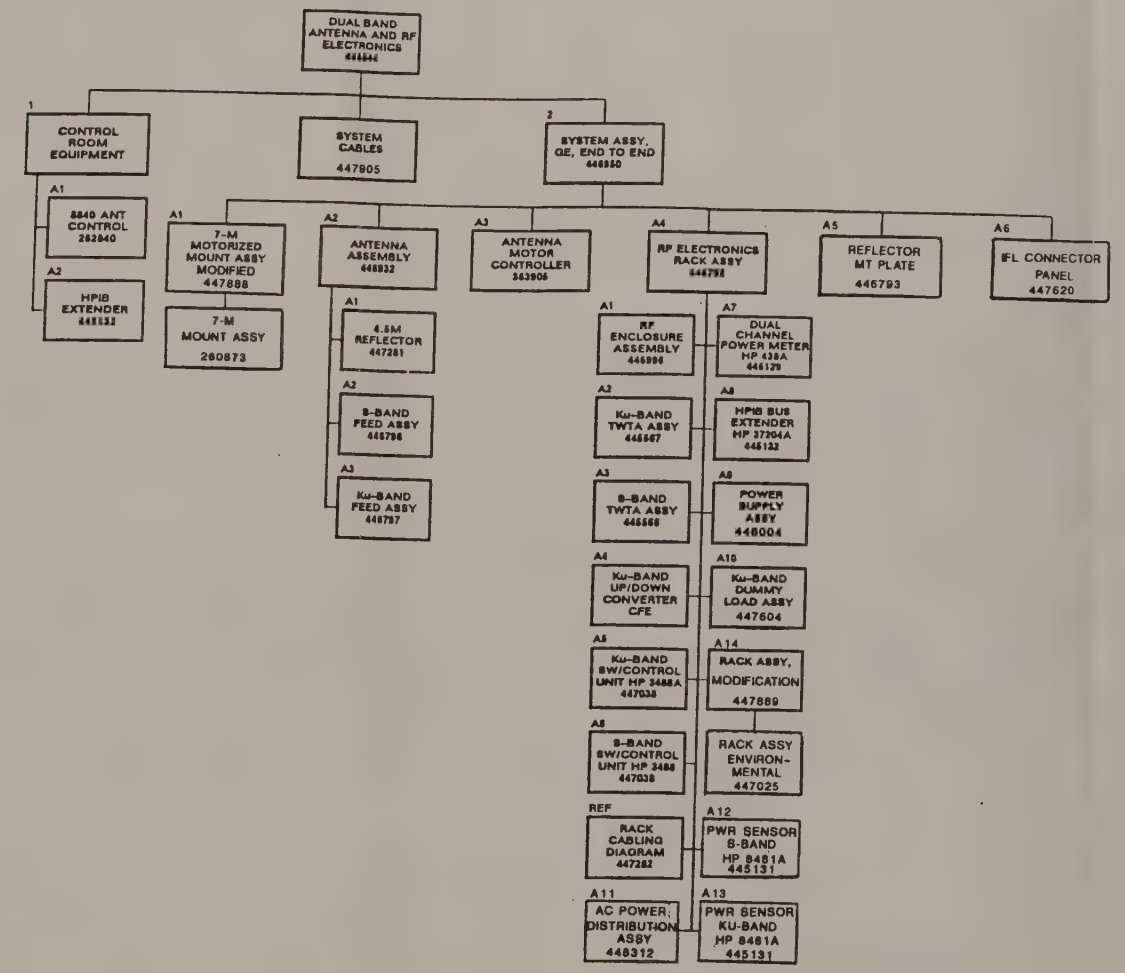
Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340	SIZE C	FSCM NO. 10110	DWG NO. 363900-363913	REV C
DRN Phil Blum CHK Phil Blum	SCALE NA		SHEET 2 OF 2	

363900-363913 C

APPLICATION		
QTY REQD	NEXT ASSY	USED ON
1		8204

REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROVED
	-	INITIAL RELEASE		RUN
	P1	ADDED A1,A5,A6,& A11, A12/3	2-25-91	CONTROLLED

FAMILY TREE
END-TO-END SYSTEM



ITEM OR FIND NO.	QTY REQD	S-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	CAGE NO.

PARTS LIST

ALL DIMENSIONS IN INCHES
UNLESS OTHERWISE SPECIFIED
TOLERANCES
3 PLACE DECIMAL ± .005
2 PLACE DECIMAL ± .02
1 PLACE DECIMAL ± .1
FRACTION ± ANGLES ± 0.5°
MAX SURFACE ROUGHNESS 125
ALL MACHINE SURFACES EXCEPT AS NOTED
BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH NONE

CONTRACT NO.

DWN	R. Thomas	10-23-90
ENGR	Tom Nelson	10-23-90
CHK	Tom Nelson	10-23-90
PROD		
APVD		
APVD		

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END TO END SYSTEM
FAMILY TREE

SIZE	CAGE NO.	DWG. NO.	REV
C	42061	SK446544	P1

SCALE NONE WT SHEET 1 OF 1

DWG NO. SK446544 01

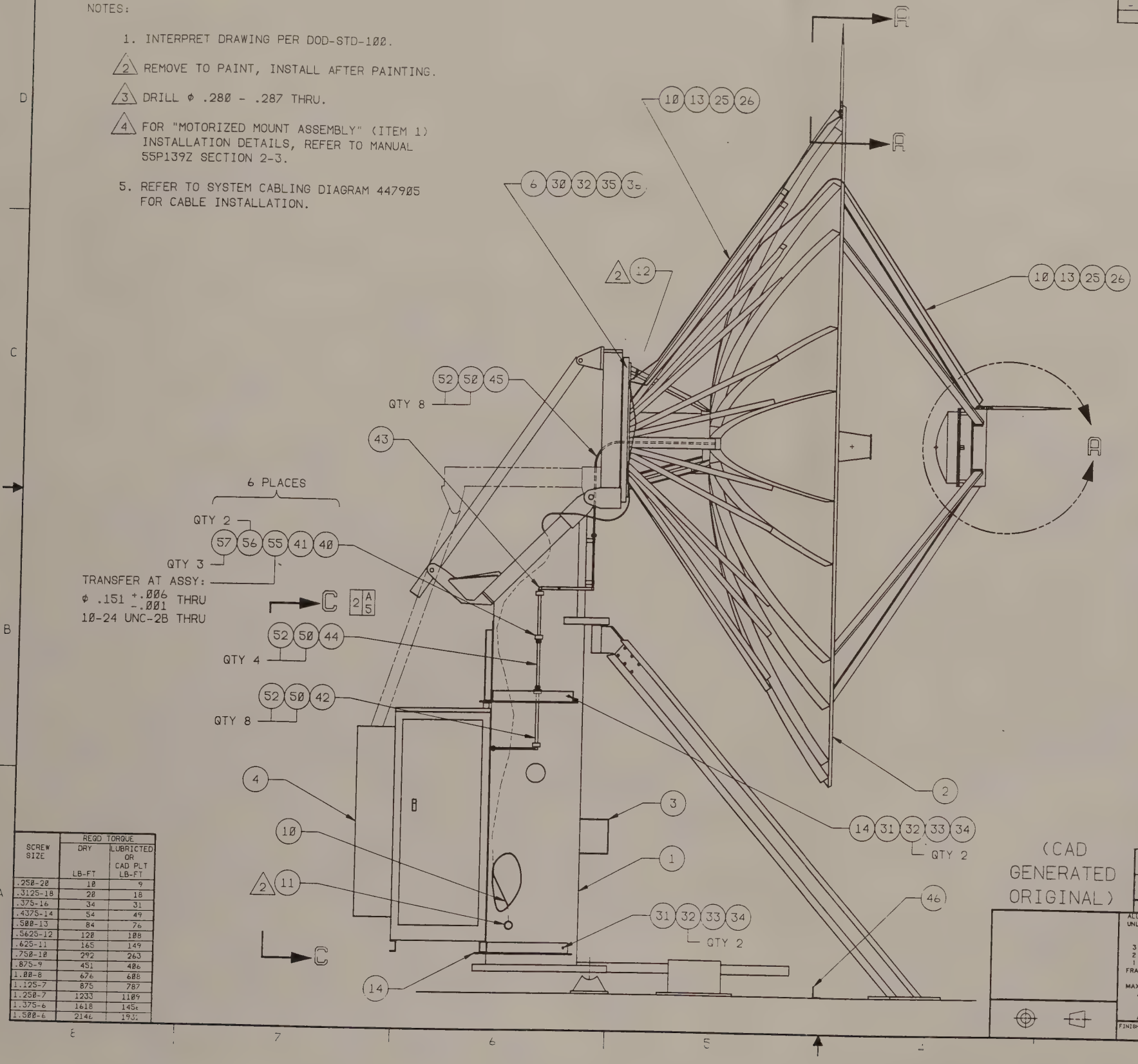
DWG NO. SK446950	SH 1	REV P1

APPLICATION		
QTY REQD	NEXT ASSY	USED ON
-	FINAL	0204

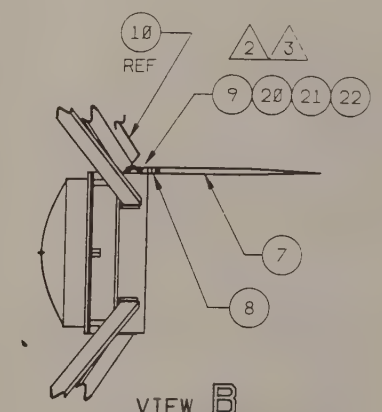
REVISIONS				
ZONE	REV	DESCRIPTION	DATE	APPROV
	P1	REVISED AND REDRAWN T.S. 12-6-98		CONTROLLER WK

NOTES:

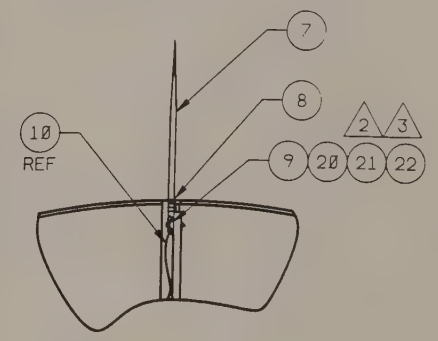
1. INTERPRET DRAWING PER DOD-STD-100.
2. (2) REMOVE TO PAINT, INSTALL AFTER PAINTING.
3. (3) DRILL ϕ .280 - .287 THRU.
4. (4) FOR "MOTORIZED MOUNT ASSEMBLY" (ITEM 1) INSTALLATION DETAILS, REFER TO MANUAL 55P139Z SECTION 2-3.
5. REFER TO SYSTEM CABLING DIAGRAM 447905 FOR CABLE INSTALLATION.



SCREW SIZE	REQD TORQUE DRY LB-FT	REQD TORQUE LUBRICTED OR CAD PLT LB-FT
.250-20	10	9
.3125-18	20	18
.375-16	34	31
.4375-14	54	49
.500-13	84	76
.5625-12	120	108
.625-11	165	149
.750-10	292	263
.875-9	451	486
1.00-8	676	608
1.125-7	875	787
1.250-7	1233	1109
1.375-6	1618	1456
1.500-6	2146	1931



VIEW B
SCALE: NONE



VIEW A-A
SCALE: NONE

SEE SEPARATE PARTS LIST

ITEM OR FIND NO.	QTY REQD	B-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	CAGE NO.

PARTS LIST

(CAD GENERATED ORIGINAL)

ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ± .005
2 PLACE DECIMAL ± .02
1 PLACE DECIMAL ± .1
FRACTION ± ANGLES ± 0.5°

MAX SURFACE ROUGHNESS 125 ALL MACHINE SURFACES EXCEPT AS NOTED BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH -

CONTRACT NO

DWN	Thomas Smith Jr	12-18-98
ENGR	L Fuqua	1-22-91
CHK	WK Fuller	1-22-91
PROD		
APVD		
APVD		

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SYSTEM ASSEMBLY, GE, END TO END

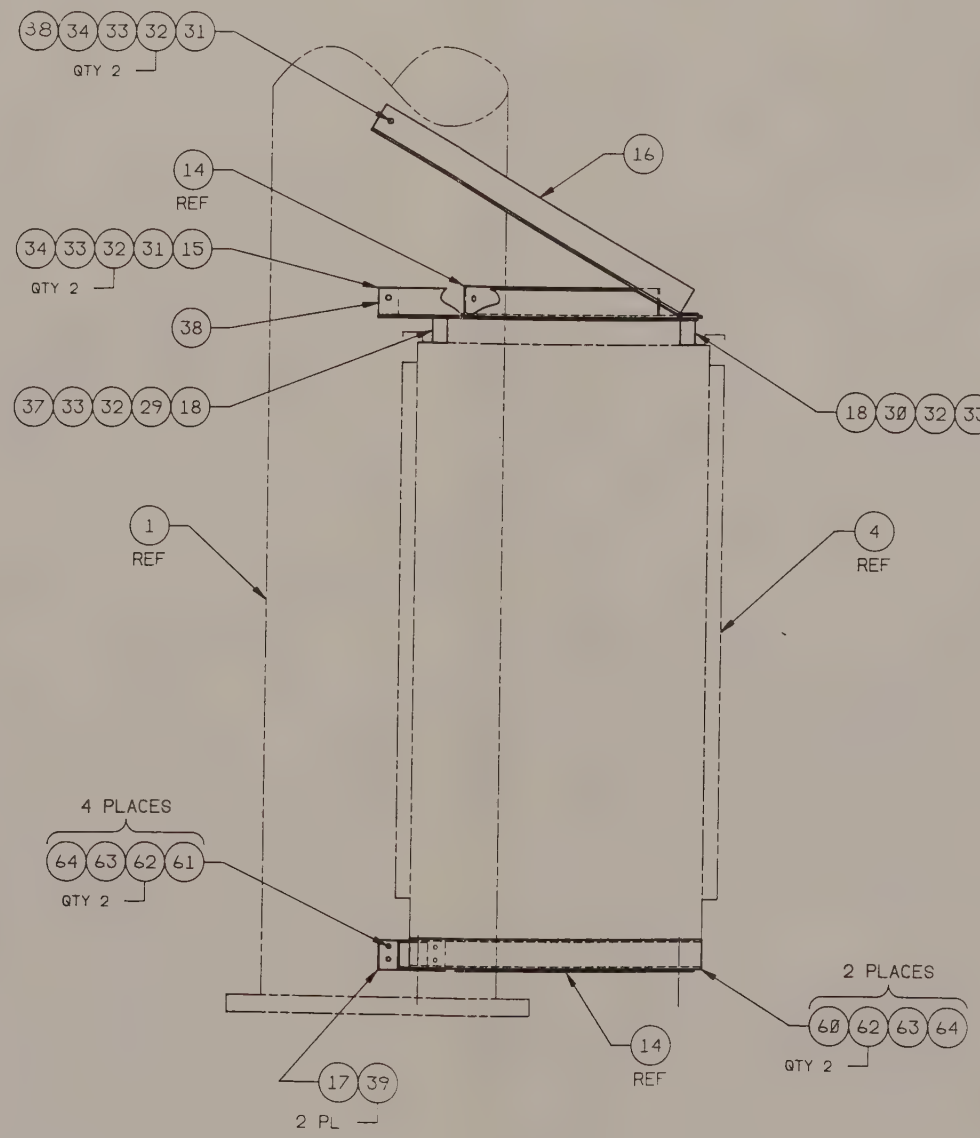
SIZE	CAGE NO.	DWG. NO.	REV
D	42061	SK446950	P1

SCALE NONE | SHEET 1 OF 2

DWG NO. SK446950	SH 2	REV P1

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROV
	P1	SEE SHEET ONE	[illegible]	[illegible]



VIEW C–C (1 B 7)

SCALE: 1/8

(CAD GENERATED ORIGINAL)

Scientific-Atlanta 3845 Pleasantdale Road Atlanta, Georgia 30340			
SIZE D	CAGE NO. 42061	DWG. NO.: SK446950	REV P1
SCALE NOTED	WT	SHEET 2	

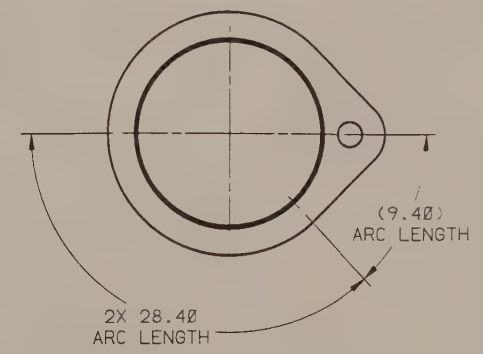
SOURCE: [SMITH.B284]SK446950P1;14 DATE CREATED DEC/18/98]

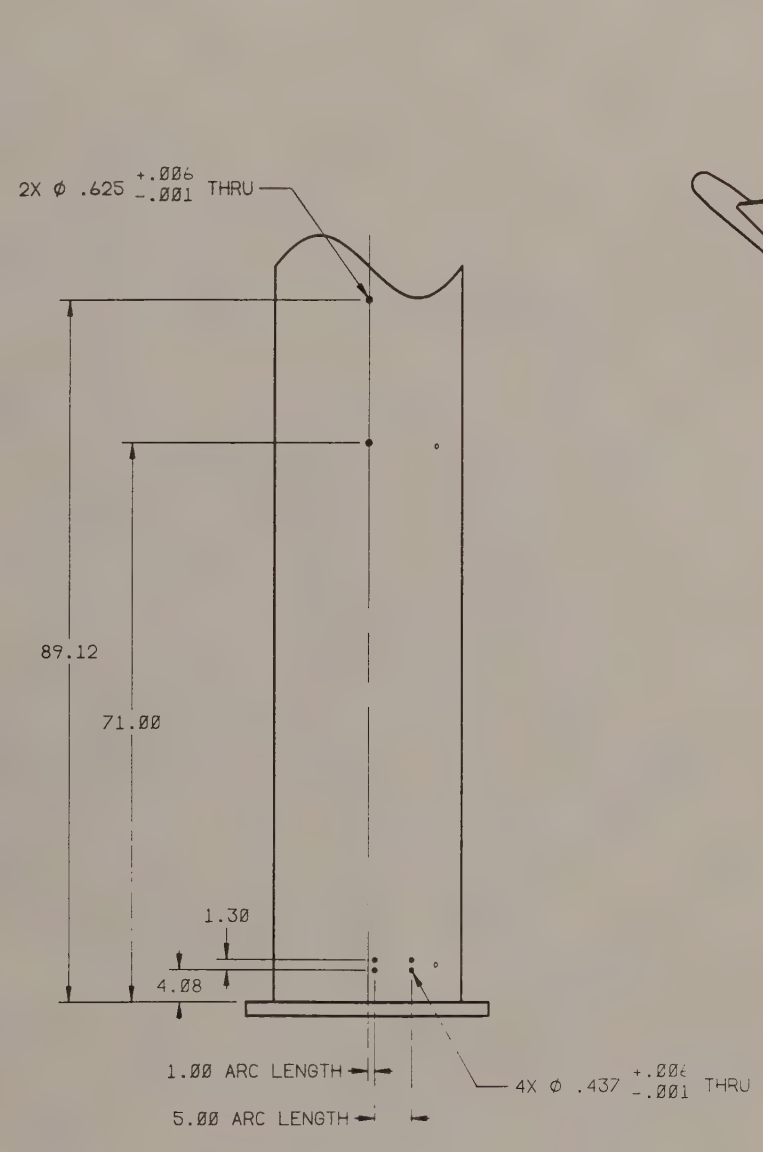
NOTES:

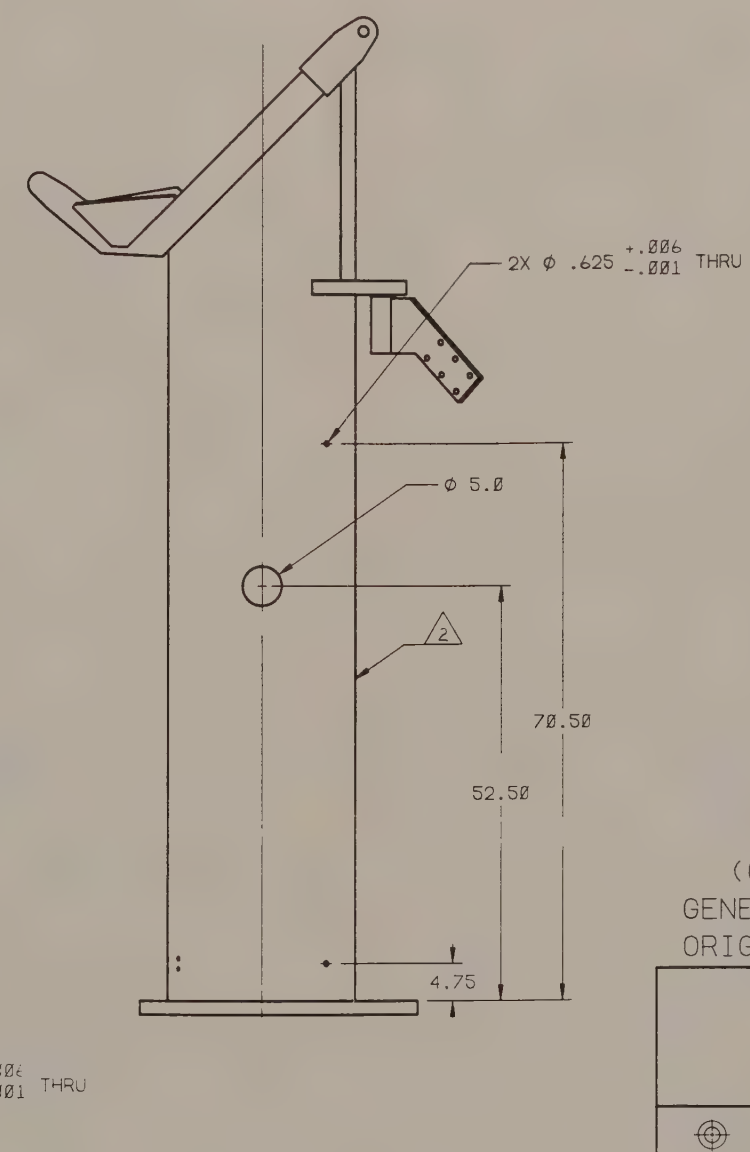
1. ALL TWO PLACE DIMENSIONS ARE ±.05 INCH.
2. ADD SECOND LABEL BELOW.
   EXISTING LABEL: "MOD PER 447888."

APPLICATION			ZONE	REVISIONS			
QTY REQD	NEXT ASSY	USED ON		REV	DESCRIPTION	DATE	APPROV
1	446950	0204		-	INITIAL RELEASE		

DWG NO. SK447888 SH 1 REV -







MODIFICATION DRAWING

(CAD GENERATED ORIGINAL)

ITEM OR FIND NO.	QTY REQD	B-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	CAGE NO.
		260873	7 METER MOTORIZED MOUNT ASSEMBLY			

PARTS LIST

ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ± .005
2 PLACE DECIMAL ± .02
1 PLACE DECIMAL ± .1
FRACTION ± ANGLES ± 0.5°

MAX SURFACE ROUGHNESS 125/ ALL MACHINE SURFACES ∨ EXCEPT AS NOTED BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH NONE

CONTRACT NO.

DWN	Thomas Smith Jr	12-11-98
ENGR	[illegible]	1-22-91
CHK	[illegible]	1-22-91
PROD		
APVC		
APVD		

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7 METER MOTORIZED MT ASSY, MODIFICATION DWG

SIZE	CAGE NO.	DWG. NO.	REV
D	42061	SK447888	-

SCALE 1/12 WT SHEET 1 OF 1

SOURCE: [SMITH.B2841]SK447888;3 DATE CREATED DEC/14/98

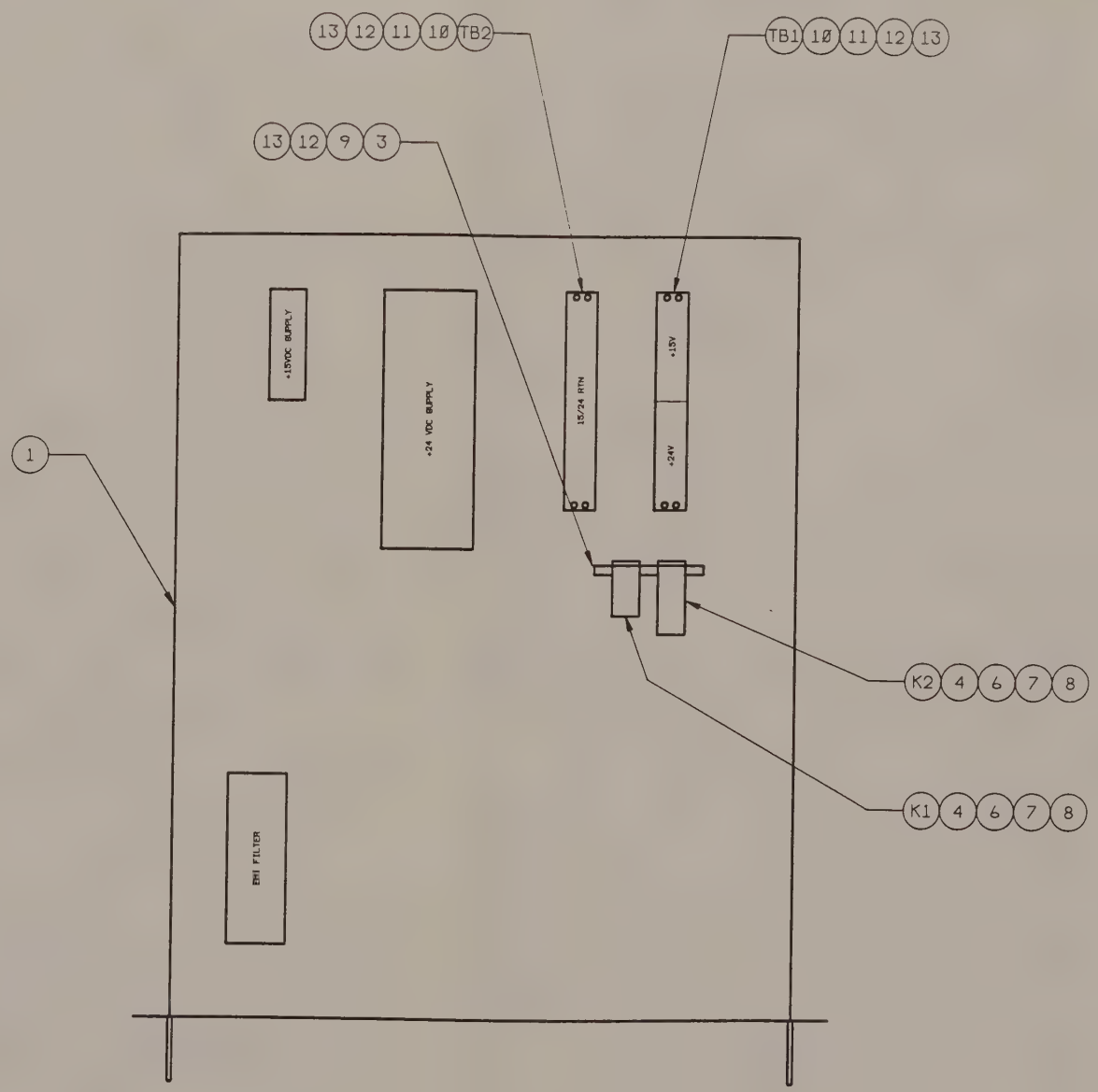
DWG NO.	SH	REV
448004	1	A

APPLICATION

QTY REQD	NEXT ASSY	USED ON
1	446795	0284

REVISIONS

ZONE	REV	DESCRIPTION	DATE	APPROV
	A	INITIAL RELEASE	3-8-91	



SEE SEPARATE PARTS LIST

(CAD GENERATED ORIGINAL)

ITEM OR FIND NO.	QTY REQD	B-A STOCK NO.	NOMENCLATURE OR DESCRIPTION	MATL SPEC AND SIZE OR COMPONENT VALUE	IDENTIFYING OR PART NO.	CAGE NO.

PARTS LIST

ALL DIMENSIONS IN INCHES UNLESS OTHERWISE SPECIFIED

TOLERANCES
3 PLACE DECIMAL ± .005
2 PLACE DECIMAL ± .02
1 PLACE DECIMAL ± .1
FRACTION ± ANGLES ± 0.5°

MAX SURFACE ROUGHNESS 125 ALL MACHINE SURFACES EXCEPT AS NOTED
BREAK SHARP EDGES AND CORNERS .010 MAX

FINISH: NONE

CONTRACT NO.

DWN	DISHMAN	1-15-91
ENGR	DISHMAN	1-15-91
CHK	WJK	3-8-91
PROD		
APVD		
APVD		

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POWER SUPPLY ASSEMBLY

SIZE	CAGE NO.	DWG. NO.	REV
D	42061	448004	A

SCALE 1/2 WT SHEET 1 OF 1

SOURCE: [WINKLER.BE]T8448004A;1 DATE CREATED MAR/06/91 1

Scientific-Atlanta

MANUAL UPDATE

Title: End-to-End Pedestal

Publication No.: 55P139Z

Edition: First

Update No.: 1

Date: June 1992

Updates have occurred since the last printing of this manual. This Update package consists of new and/or updated pages.

Updates are marked with the **Update No.** next to the Publication Number, and with a vertical bar in the margin next to the corresponding change. When the manual is revised, these bars are removed. If the entire page, figure or table is new, bars may be placed next to the page number, figure number, or table number only. If entire paragraphs are updated, a bar may appear by the paragraph title and number only (if applicable) and not the entire portion.

To update the manual, remove and insert pages as follows:

REMOVE	INSERT
Title Page	Title Page
v, vi	v, vi
5-5, 5-6	5-5 thru 5-8

After inserting all updated pages insert this instruction page immediately following the Title page of this manual.

End-To-End Pedestal

Technical Manual

Operation and Maintenance Instructions

Publication No. 55P139Z

First Edition - April 1991
Update 1 - June 1992

Scientific
Atlanta

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5-3.1 Manual Actuator Checkout. This procedure is identical for azimuth and elevation actuators. Refer to Figure 2-3.

CAUTION

Limit switches must be removed before attempting manual actuator operation to prevent interval damage to pedestal control circuitry.

a. Verify that limit switches are removed.

b. Rotate two external release arms 90 degrees to release motor brake.

c. Connect 3/4-inch wrench or drill motor with 1/2-inch or larger drive to motor shaft that extends through brake housing.

d. Operate actuator to ensure smooth travel with no binding.

e. Remove wrench or drill from motor shaft.

f. Return two release arms to original position to set motor brake.

5-4 TROUBLESHOOTING.

The pedestal equipment is designed to be very reliable. Should a problem occur, follow the general procedures shown below.

a. Determine that fault lies within equipment under test. Eliminate possibilities of external control and/or drive problems.

b. Check for simple problems such as loose connections.

c. Check gears for binding or pedestal assemblies for loosely attached hardware.

d. Refer to Section V of the 55S383Z End-to-End Test RF Equipment System manual.

e. If problem requires extensive checks or complete overhaul, ship unit to Scientific-Atlanta for repair. Contact Scientific-Atlanta prior to shipment.

5-5 REPAIR.

Repair of the pedestal consists of removal and replacement of line replaceable units (LRU). Pedestal LRUs include the azimuth and elevation motorized actuators, potentiometers, and limit switches. Refer to Section V in the 55S383Z End-to-End Test RF Equipment System manual.

5-5.1. Removal/Installation of Azimuth and Elevation Actuators. Remove/Install the actuators as follows:

a. Removal

WARNING

The Pedestal Disable Switch does not disable all pedestal electrical circuits. Prior to performing repair procedures remove all electrical power to the pedestal and pedestal tilt assembly. Failure to comply may result in death or serious injury to personnel.

WARNING

The pedestal should be in the upright position with stow pins installed prior to performing repair procedures. Failure to comply may result in death or serious injury to personnel and/or damage to equipment.

(1) Position elevation axis at 0° and install stow pins.

(2) Disconnect power from pedestal.

(3) Remove attaching hardware as required per drawings 260873 and 339657 or 339658.

(4) Remove actuator from pedestal.

b. Installation

(1) Position actuator on pedestal and mount using attaching hardware per drawings 260873 and 339657 or 339658.

(2) Remove stow pins.

(3) Perform operational checkout according to paragraph 5-3.1.

(4) Connect power to pedestal.

5-5.2. Removal/Installation of Potentiometers. Remove/Install the potentiometers as follows:

a. Removal

(1) Disconnect power from pedestal.

(2) Remove attaching hardware as required per drawing 263196.

(3) Remove potentiometer from pedestal.

b. Installation

(1) Position potentiometer on pedestal and mount using attaching hardware per drawing 263196.

(2) Connect power to pedestal.

5-5.3. Removal/Installation of Limit Switches. Remove/Install the limit switches as follows:

a. Removal

(1) Disconnect power from pedestal.

(2) Remove attaching hardware as required per drawing 260873.

(3) Remove limit switch from actuator.

b. Installation

(1) Position limit switch on actuator and mount using attaching hardware per drawing 260873.

(2) Connect power to pedestal.

5-6 ADJUSTMENTS.

Adjustments are a function of the antenna operation. Refer to the 55A200Z End-to-End Antenna and RF Equipment Subsystem manual.